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AMERICAN MEN OF SCIENCE

A BIOGRAPHICAL DIRECTORY

EDITED BY
J. McKEEN CATTELL

NEW YORK
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1906

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PREFACE

THIS biographical directory of American Men of Science was begun as a manuscript reference list for the Carnegie Institution of Washington, which made an appropriation of $1,000 toward the clerical and office expenses. It is hoped that the publication will be a contribution to the organization of science in America. There is here given for the first time a fairly complete survey of the scientific activity of a country at a given period. As a reference book for the field it covers, it may be even more useful in academic circles than *Minerva* or *Who's Who in America*. But the chief service it should render is to make men of science acquainted with one another and with one another's work. There scarcely exists among scientific men the recognition of common interest and the spirit of cooperation which would help to give science the place it should have in the community. It is fully as important for the nation as for men of science that scientific work should be adequately recognized and supported. We are consequently in the fortunate position of knowing that whatever we do to promote our own interests is at the same time a service to the community and to the world.

There are included in the directory the records of more than four thousand men of science, and it is believed that the entries are tolerably complete for those in North America who have carried on research work in the natural and exact sciences. Some are admitted who are supposed to have advanced science by teaching, by administrative work, or by the preparation of text-books and compilations. There are also some whose work has been chiefly in engineering, medicine or other applied sciences, and a few whose work is in education, economics or other subjects not commonly included under the exact and natural sciences. But the book does not profess to cover these fields. The names are included because they are supposed to represent work that has contributed to the advancement of pure science—the term being used in the narrower sense—or because they are found in the membership lists of certain national societies. All the members of the following societies who filled in the blank sent them are included: The National Academy of Sciences, fellows of the American Association for the Advancement of Science, the American Society of Naturalists, the Association of American Anatomists, the Association of American Geographers, the Association of American Physicians, the American Association of Pathologists and Bacteriologists, the Astronomical and Astrophysical Society of America, the Botanical Society of America, the Geological Society of America, the American Mathematical Society, fellows of the American Ornithologists' Union, the American Philosophical Association, the American Physical Society, the American Physiological Society, the American Psychological Association, the American Society of Bacteriologists, the Society for the Promotion of Agricultural Science, the Society for Experimental Biology and Medicine, the Society of Horticultural Science, the Society for Plant Morphology and Physiology, and the American Society of Zoologists.

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While these societies do not coincide exactly in scope with this work or have uniform standards of admission, it seemed unwise to attempt to discriminate among the members. If a few are admitted owing to their membership in societies who would not have been admitted on such opinion of the value of their work as the editor might be able to secure, no great harm is done. These societies must be regarded as the basis for the organization of science in this country, and their membership may properly be included in a work that is intended to promote this organization. In addition to these societies the membership of medical, engineering and other societies was reviewed, the catalogues of institutions of learning were consulted, other reference books (especially *Who's Who in America*) were used, the contributions to scientific journals were analyzed, requests for names omitted were printed in *Science*, in *The Popular Science Monthly* and in *The Nation*, and much assistance was received from individuals.

The blanks were sent in all to about ten thousand who might have contributed to the advancement of science, and from the replies the names included have been selected. As many as four requests were sent to those who it was believed should be included when they did not reply to previous applications. Proofs of all the biographies were submitted for correction — a second and a third copy having been sent when necessary — and revised proofs were sent after the corrections had been entered.

It was intended that each entry should contain information as follows :

(1) The full name with title and mail address, the part of the name ordinarily omitted in correspondence being in parentheses.
(2) The department of investigation given in italics.
(3) The place and date of birth.
(4) Education and degrees.
(5) Positions with dates, the present position being given in italics.
(6) Temporary and minor positions.
(7) Honorary degrees and other scientific honors.
(8) Membership in scientific and learned societies.
(9) Chief subjects of research, those accomplished being separated by a dash from those in progress.

The abbreviations are intended to be self explanatory, not being carried far except in the case of the scientific societies. Here F.A.A. signifies fellow of the American Association for the Advancement of Science, and M.A.A., member of the association. 'American' is omitted in the case of the national societies. In citing institutions of learning the words 'college' and 'university' are omitted. Degrees are cited as A.B., A.M., etc., although the reverse order of the letters is used in Great Britain and sometimes here. When the same position has been occupied successively in different institutions, the name of the position is not repeated, and when different positions have been occupied successively in the same institution, the name of the institution is not repeated.

A star is prefixed to the subject of research in the case of about a thousand of the biographical notes. These are the thousand students of the natural and exact sciences in the United States whose work is supposed to be the most important. In each of the twelve principal sciences the names were arranged in the order of merit by ten leading students of the science. The average positions and the probable errors were then calculated, so that in each science the order of merit was determined together with its validity. The names were then combined in one list by interpolation, the numbers in each science being taken approximately proportional to the total number of workers in that science. The thousand

are distributed among the sciences as follows : Chemistry, 175 ; physics, 150 ; zoology, 150 ; botany, 100 ; geology, 100 ; mathematics, 80 ; pathology, 60 ; astronomy, 50 ; psychology, 50 ; physiology, 40 ; anatomy, 25 ; anthropology, 20. The star means that the subject of the biographical sketch is probably among the leading thousand students of science of the United States ; but its absence does not necessarily mean that the subject of the sketch does not belong in this group, as the name may not have been considered in making the arrangements.

My object in determining the thousand leading American men of science was to secure a group for scientific study. I have also selected for this purpose the thousand leading men in the history of the world arranged in the order of eminence, and I am selecting a thousand students of Columbia University. My original interest in this work of reference was to secure data for a statistical study of the conditions, performance, traits, etc., of a large group of men of science, and I had intended to include the results of this study in the book. It seems, however, unwise to postpone the publication of the biographical sketches until the scientific study has been completed.*

I am under unusual obligations to a large number of men of science for assistance in this work. I should be glad to give a list of about two hundred to whom I am particularly indebted, but perhaps some of them would prefer not to have their names mentioned. I have been assisted in the compilation by Mr. Wm. Harper Davis, then assistant in psychology at Columbia University and now assistant professor in Lehigh University, by Dr. H. D. Marsh, then scholar in psychology at Columbia University and now instructor in Ohio Wesleyan University, by Miss M. C. Ennis, and most of all by Dr. Vivian A. C. Henmon, now lecturer in psychology at Columbia University. So much completeness and accuracy as the work may have is largely due to them.

J. McKeen Cattell

Columbia University,
January, 1906

* Two papers on the subject have been printed—'Homo Scientificus Americanus : Address of the president of the American Society of Naturalists,' *Science*, N. S., **17** : 561–570, 1903, and 'Statistics of American Psychologists,' *Am. Jour. of Psychol.*, **14** : 310–328, 1903. A further series of articles, which is now nearly ready, will probably be printed in *Science*. *Cf.* in regard to the other groups 'A Statistical Study of Eminent Men,' *Pop. Sci. Mon.*, **53** : 359–378, 1903, and 'Physical and Mental Measurements of the Students of Columbia University,' *Psychol. Rev.*, : 618–648, 1896.

AMERICAN MEN OF SCIENCE

A

Aaron, S(amuel) Frank, 23 S. 34th St, J, Philadelphia, Pa. *Entomology.* Mt. Holly, N. J, March 5, 62. Common schools. Jesup scholar, Acad. Nat. Sciences, Phila, 83–84, custodian insects, 84–85; *econ. entomologist, Phila. Commercial Mus, 96–* Psocidæ; Pseudoneuroptera; Hymenoptera; Lepidoptera; general and economic entomology; trees.—Popular entomology; the black ant; parasites of wood-boring beetles; forestry.

Abbe, Prof. Cleveland, 2017 I St, N. W, Washington, D. C. **Meteorology.* New York, N. Y, Dec. 3, 38. A.B, Col. City of N. Y, 57, A.M, 60; B.S, Harvard, as of 64. Tutor math, Trinity Sch, N. Y, 57–58; asst. prof. eng, Mich. Agr. Col, 59; tutor eng, Michigan, 59–60; aid astron, U. S. Coast Surv, and with B. A. Gould at Cambridge, 60–64; resident, Poulkova Observatory, 65–66; aid, U. S. Naval Observatory, 67–68; director, Cincinnati Observatory, 68–73; prof. meteorol. and civilian asst, office of chief signal officer, U. S. A, 71–91; *prof. meteorol, George Washington, 86–; prof, U. S. Weather Bur, 91–; lecturer, Hopkins, 96–* Ed, 'Monthly Weather Rev'; chairman, Committee on Meteorol, Carnegie Inst, 02. Officier d'Acad, 89; hon. Ph.D, Col. City of N. Y, 91; LL.D, Michigan, 88; Glasgow, 96. Delegate, Am. Forestry Cong, Cincinnati, 82; Elec. Cong, Phila, 84; Int. Meridian and Time Standard Cong, 84; Int. Meteorol. Cong, Munich, 91; Int. Cong. Physicists, Paris, 00. Nat. Acad; F.A.A. (v. pres, 90); Math. Soc; Astron. and Astrophys. Soc; Physical Soc; Metrol. Soc; Geog. Ass; assoc. mem. Elec. Eng; cor. mem. Am. Geog. Soc; Nat. Geog. Soc; Forestry Ass; Am. Hist. Ass; Philos. Soc; assoc. fel. Am. Acad; New Eng. Meteor. Soc; Wash. Acad; cor. mem. N. Y. Acad; Boston Soc. Nat. Hist; Phila. Geog. Soc; Wash. Philos. Soc; cor. mem. Conn. Hist. Ass; Ohio Hist. Soc; N. Y. Hist. Soc; Columbian Hist. Soc; cor. mem. British Ass; fel. Royal Astron. Soc; fel. Royal Meteor. Soc; assoc. British Victoria Inst; Math. Verein; cor. mem. Astron. Gesell; cor. and hon. mem. Meteor. Gesell; Oester. Gesell. Meteor; Ass. française; Soc. météor. de France; Soc. Meteor. Ital. Astronomy; meteorology.—Long range predictions in meteorology.

Abbe, Cleveland, Jr, U. S. Geological Survey, Washington, D. C. *Geography, Geology.* Washington, March 25, 72. A.B, Harvard, 94, A.M, 96; Ph.D, Hopkins, 98; Vienna and Paris, 01–03. Prof. nat. sciences, Winthrop Nor. and Indust. Col, 98–01; *aid, U. S. Geol. Surv, 03–* Instr. physiog, Corcoran Sci. Sch, Washington, 95–98; asst, Md. Geol. Surv, 97–01; instr. geol. and biol, Western Md. Col, 98–99; State Summer Nor. Sch, Rock Hill, S. C, 99. F.A.A; Geol. Soc; Min. Eng; Geog. Ass; Nat. Geog. Soc; Wash. Geol. Soc; Berlin Gesell. für Erdkunde. Topographic development.—Fall line of east North America; lakes of southern Scandinavia; Canadian and Baltic 'shields'; the climate of the Great Lakes region and Agaña, Guam; dictionary of geographic terms.

Abbe, Dr. Robert, 13 W. 50th St, New York, N. Y. *Surgery.* New York, April 13, 51. A.B, Col. City of N. Y, 70; M.D, Columbia, 74. Prof. surg, Woman's Med. Col, N. Y, 86–88; Post-Grad. Med. Sch, N. Y, 88–96; *clin. instr. surg, Columbia, 94–* Attending surgeon, St. Luke's Hosp, 84– F.A.A; Surg. Ass. Surgery.

Abbot, C(harles) G(reeley), 36 Q St, N. E, Washington, D. C. **Astrophysics.* Wilton, N. H, May 31, 72. B.S, Mass. Inst. Tech, 94, M.S, 95. Asst, *Smithsonian Astrophys. Observatory,* 95–96, *aid, acting in charge, 96–* F.A.A; Astron. and Astrophys. Soc; Wash. Philos. Soc. Infrared solar spectrum; sensitive galvanometer; osmotic pressure.—Solar physics; absolute recording pyr-heliometer.

Abbot, Gen. Henry L(arcom), U. S. A. (retired), 23 Berkeley St, Cambridge, Mass. *Engineering, Physics.* Beverly, Mass, Aug. 13, 31. Grad, U. S. Mil. Acad, 54. All grades from second lieut. to col, Corps Engineers, U. S. A, 54–95 (retired by law). Col, brevet brig. and maj. gen, U. S. Vols; chairman, Group XVI, Centennial Expos, 76; Higher Jury of Awards, Atlanta Expos, 95; pres, Board of Consulting Engineers, Pittsburg and Lake Erie Canal, 95–96; mem. Int. Commission Engineers, New Panama Canal Co, 97–00, consulting engineer, 00–04; mem. many govt. boards. LL.D, Harvard, 86. Nat. Acad; Philos. Soc; Am. Acad; New Orleans Acad; cor. mem. Austrian Imperial Royal Geol. Soc. River and harbor improvements; coast defence; submarine mining; explosives; electricity; vertical fire; astronomy; canals; river hydraulics; climatology of the Isthmus of Panama.—The Chagres River; the Panama Canal.

Abbott, Dr. Albert H(olden), University College, Toronto, Can. *Psychology.* Brockville, Ont, Dec. 7, 71. A.B, Toronto, 95; Ph.D, Würzburg, 04. Asst, Psychol. Lab, *Toronto,* 95–99, instr. philos, 99–00, *lecturer philos. and asst, Psychol.*

Lab, 00– Psychol. Ass. Sensations of color; psychology and epistemology of Hobbes.—Color saturation in its quantitative relations; British philosophy and psychology from Bacon to the present day.

Abbott, Dr. A(lexander) C(rever), 4229 Baltimore Ave, Philadelphia, Pa. **Hygiene, Bacteriology.* Baltimore, Md, Feb. 26, 60. Baltimore City Col, 77; M.D, Maryland, 84; Hopkins, 84–87; Munich, 87–88; Berlin, 88–89. Asst. hygiene and bacter, Hopkins, 89–91; asst. in charge, Lab. of Hygiene, *Pennsylvania,* 91–96, *prof. hygiene and bacter. and director, Lab. of Hygiene, 97–;* director, Div. Path, Bacter. and Disinfection, Bur. of Health, Phila, 97; *chief, Bur. of Health, and pres, Board of Health, 02–* F.A.A; Ass. Path. and Bact; Soc. Bact; Am. Physicians; Physiol. Soc; Soc. Exp. Biol. and Med; Am. Med. Ass; Pub. Health Ass; Philos. Soc; Wash. Acad; Phila. Co. Med. Soc; Phila. Path. Soc; fel. Phila. Col. Physicians. Bacteriology and preventive medicine.—Certain phases of infection, intoxication and immunity.

Abbott, Dr. C(harles) C(onrad), Trenton, N. J. *Zoology, Archeology.* Trenton, June 4, 43. M.D, Pennsylvania, 65. Asst, Peabody Mus, Harvard, 76–89. Philos. Soc; Boston Soc. Nat. Hist; fel. Copenhagen Soc. of Antiquaries of the North. Primitive industry; natural science.—Animal intelligence; evidences of the antiquity of man in the valley of the Delaware River.

Abbott, Prof. J(ames) F(rancis), Washington University, St. Louis, Mo. *Zoology.* Greeley, Colo, Sept. 27, 76. A.B, Stanford, 99; fellow, Chicago, 03–04; A.M, Stanford, 04. Instr. English, Shigaken Shogyo Gakko, Japan, 00–01; prof. English lang, Imp. Naval Col, Etajiina, Japan, 01–03; *asst. prof. zool, Washington (St. Louis), and assoc. prof. embryol, Med. Sch, 04–* Faunal ichthyology; ctenophore morphology.—Formative and trophic influences in avian embryology; tropisms in pathogenic bacteria.

Abel, Prof. John J(acob), Station L, Baltimore, Md. **Pharmacology, Physiological chemistry.* Cleveland, O, May 19, 57. Ph.B, Michigan, 83; Hopkins, 83–84; European universities, 84–90; M.D, Strasburg, 88. Principal, High Sch, La Porte, Ind, 79–80, supt. pub. schools, 80–82; lecturer mat. med. and therapeut, Michigan, 90–91, *prof,* 91–93; *pharmacol, Hopkins, 93–* Hon. A.M, Michigan, 03. F.A.A; Physiol. Soc; Am. Physicians; Therapeut. Soc; Chem. Soc; Soc. Exp. Biol. and Med. Composition of animal tissues and fluids; function and isolation of special chemical principles of the animal organism; ethyl sulphid; carbamic acid; pigment of negro's skin.—The chemical nature of the blood-pressure-raising constituent of the suprarenal capsules.

Abrams, Dr. Albert, Southwest Corner Van Ness Ave, San Francisco, Cal. *Medicine.* San Francisco, Dec. 8, 63. M.D, Heidelberg, 82; London, Berlin, Vienna and Paris, 83, 84, 97; A.M, Portland, 94. Prof. path, Cooper Med. Col, 93–98; *pres, Emanuel Polyclinic, San Francisco.* Consulting physician diseases of chest, Mt. Zion and French Hospitals, San Francisco. Am. Med. Ass; fel. Royal Micros. Soc. Heart reflex and lung reflexes of contraction and dilatation; zones of atelectasis; the stethophonometer; light as a therapeutic agent; congelation in diagnosis and treatment.—Diseases of the heart and lungs.

Abrams, L(e)R(oy), U. S. National Museum, Washington, D. C. *Botany.* Sheffield, Ia, Oct. 1, 74. A.B, Stanford, 99, A.M, 02; fellow, Columbia, 04–05. Acting prof. bot, Idaho, 99–00; asst. syst. bot, Stanford, 00–03, instr, 03–04; *asst. curator, Div. Plants, U. S. Nat. Mus, 05–* M.A.A; Nat. Geog. Soc; Wash. Bot. Soc; Wash. Biol. Soc; Torrey Bot. Club. Flora of southern California.

Acheson, Edward G(oodrich), Niagara Falls, N. Y. **Electrometallurgy, Chemistry.* Washington, Pa, March 9, 56. Bellefonte Acad, Bellefonte, Pa. Civil engineer, 76–80; Edison's Lab, 80–82; supt, Consol. Lamp Co, Brooklyn, N. Y, 84; electrician, Standard Underground Co, Pittsburg, 86–89; *pres,* Carborundum Co, 91–01; *Int. Acheson Graphite Co, 00–* John Scott medals, Franklin Inst, 94, 01; Grand Prix, Paris, 00; La. Purchase Expos, 04. F.A.A; Elec. Eng; Electrochem. Soc. (manager, 02–03); Franklin Inst; London Soc. Arts. Electric furnaces and products.—Development of electric furnace methods; improvements in the methods of clay-working.

Adami, Prof. J(ohn) G(eorge), 331 Peel St, Montreal, Can. *Pathology, Bacteriology.* Manchester, England, Jan. 12, 62. Owens Col, Manchester, 77–80; A.B, Cambridge, 84; Breslau, 84–85; Owens Col, 85–87; M.B, Cambridge, 86, A.M, 87; mem. Royal Col. Surg, 87; M.D, Cambridge, 90. House physician, Manchester Royal Infirmary, 86; demonstrator path, Cambridge, 87–90, John Lucas Walker student in path, 89, lecturer, 90, fellow and director nat. science, Jesus Col, 90–92; *prof. path, McGill, 92–* Pathologist, Can. Dept. Agr, 97–02. A.M, M.D, McGill, 99; LL.D, New Brunswick. Soc. Nat; Ass. Path. and Bact; Soc. Bact; Physiol. Soc; Am. Physicians; Soc. Exp. Biol. and Med; Can. Royal Soc; Montreal Medico-Chirurg. Soc. (pres, 98–00); British Med. Ass; London Path. Soc; London Physiol. Soc; fel. Royal Soc; Edinburgh Royal Soc; Cambridge Philos. Soc. Cardiac, renal and hepatic pathology; heredity of disease; causation of cancer, etc; variability of bacteria; colon bacillus; tuberculosis.—Heredity of disease; B. coli infection; experimental production of anemia; causation of goitre; degenerative processes.

Adams, Alton Dermont, P. O. Box 478, Worcester, Mass. *Electrical engineering.* Biddeford, Me, June 28, 64. B.S, Harvard, 97, A.M, 03. Constructing elec. engineer, 86–95; *consulting engineer, 95–* Elec. Eng. Electrical supply; cost of gas and electrical supply.

Adams, Cha(rle)s C(hristopher), University of Michigan, Ann Arbor, Mich. *Zoology.* Clinton,

Ills, July 23, 73. B.S, Ills. Wesleyan, 95; M.S, Harvard, 99; fellow, Chicago, 00–03. Asst. biol, Ills. Wesleyan, 95–96; asst. entomologist, State Lab. Nat. Hist, Univ. of Ills, 96–98; asst. zool, Chicago, summer, 02; *curator, Univ. Mus, Michigan, 03–* F.A.A; Soc. Nat; Geog. Ass; Chicago Acad. Habitats and faunas dynamically and genetically considered.—Geographical distribution of the variations in Io; centers of dispersal in the North American fauna.

Adams, Prof. C(harles) F(rederick), University of Arkansas, Fayetteville, Ark. *Entomology, Zoology.* Atherton, Mo, April 4, 77. B.Agr, Missouri, 97; M.D, Kansas, 02, A.M, 03; Chicago, 04–05. Asst. entom, Missouri, 97; prof. histol. and bacter, Kansas City Dental Col, 00–04; asst. zool, Chicago, 04–05; *prof. entom, Arkansas, 05–* M.A.A. Insect taxonomy.—Insect histology and cytology; insect bionomics.

Adams, Prof. C(omfort) A(very), 13 Farrar St, Cambridge, Mass. *Electrical engineering.* Cleveland, O, Nov. 1, 68. B.S, Case, 90, E.E, 05. Elec. engineer, Brush Elec. Co, Cleveland, 90–91; instr. *elec. eng, Harvard,* 91–96, *asst. prof, 96–* M.A.A; Elec. Eng; Eng. Educ. Induction motors; alternator regulation.—Commutation.

Adams, Cyrus C(ornelius), 416 W. 118th St, New York, N. Y. *Geography.* Naperville, Ills, Jan. 7, 49. A.B, Chicago, 76. *On ed. staff, 'N. Y. Sun,' 82–* Pres, Dept. Geog, Brooklyn Inst, 89–93; chairman, Committee on Collection of Geog. Material for Schools, 89–93. Delegate from Nat. Geog. Soc. to Sixth Int. Geog. Cong, 95. Geog. Ass; Nat. Geog. Soc; Am. Geog. Soc. (councilor, 92–95, assoc. ed, 'Jour,' 02–04); cor. mem. Phila. Geog. Soc. Exploration; development of newly explored lands; the interaction of man with his geographic environment.—Cartographic presentation of the facts of commercial and economic geography.

Adams, Dr. Frank D(awson), 243 Mountain St, Montreal, Can. *Geology.* Montreal, Sept. 17, 59. B.S, McGill, 78; Sheffield Sci. Sch, Yale, 79; M.S, McGill, 84; Ph.D, Heidelberg, 92. Asst. chemist and petrographer, Can. Geol. Surv, 80–89; lecturer *geol, McGill,* 89–94, *Logan prof, 94–* Ed, 'Can. Record of Science,' 93–98. Sc.D, McGill, 02. Geol. Soc; Wash. Acad; cor. mem. N. Y. Acad; fel. Can. Royal Soc; fel. London Geol. Soc. Igneous rocks and crystalline schists; experimental geology.—Movements set up in rocks by pressure; geology of the Laurentian of Canada; geology of the Monteregian Hills.

Adams, Dr. Geo(rge) I(rving), U. S. Geological Survey, Washington, D. C. *Geology.* Lena, Ills, Aug. 17, 70. A.B, Kansas, 93, A.M, 95; Sc.D, Princeton, 96; Munich, 97. Instr. nat. science, Kas. State Nor. Sch, 93–94; asst, Univ. of Kas. Geol. Surv, summers, 94–97; field asst, *U. S. Geol. Surv,* 98–99, *asst. geologist, 00–* Chief hydrologist, Cuerpo de Ingenieros de Minas del Peru, 04– Geol. Soc; Min. Eng; Wash. Geol. Soc. Economic and structural geology.

Adams, Prof. Maxwell, Chico, Cal. *Chemistry.* St. George, W. Va, Feb. 28, 69. West Virginia, 90–91; A.B, Stanford, 95, A.M, 96; Ph.D, Chicago, 04. Lecture asst. *chem,* Stanford, 95–97; *prof, Cal. State Nor. Sch, 97–* Instr, Extension Dept, Chicago, 00–01. Chem. Soc. Salts of tin with organic bases; hydroxylamin; molecular weight of lactimid; halides of tin.—Action of hydroxylamin on salts of copper.

Adams, Dr. Samuel S(hugert), 1 Dupont Circle, Washington, D. C. *Medicine.* Washington, July 12, 53. A.B, West Virginia, 75, A.M, 78; M.D, Georgetown, 79. Lecturer diseases of children, Georgetown, 79–83; *prof.* theory and practise of med, National Univ, 83–91; clinical pediat, Columbian, 91–95; *theory and practise of med. and diseases of children, Georgetown, 95–* Am. Physicians; Pediat. Soc; Am. Med. Ass; D. C. Med. Soc; D. C. Med. Ass; Wash. Obstet. and Gynec. Soc; Wash. Acad.

Adams, Walter S(ydney), Solar Observatory, Mt. Wilson, Cal. *Astronomy.* Antioch, N. Syria, Dec. 20, 76. A.B, Dartmouth, 98; A.M, Chicago, 99; Munich, 00–01. Asst, Yerkes Observatory, 01–03, instr. astrophys, 03–04; *asst. observer, Solar Observatory, Carnegie Inst, 04–* Astron. and Astrophys. Soc; Royal Astron. Soc. Stellar motions in the line of sight; stellar spectroscopy; determination of radial velocities of stars of the Orion type of spectrum.—Solar and stellar spectroscopy.

Adler, Dr. Cyrus, The Mendota, Washington, D. C. *Archeology, Ethnology.* Van Buren, Ark, Sept. 13, 63. A.B, Pennsylvania, 83, A.M, 86; Ph.D, Hopkins, 87. Instr. Semitic languages, Hopkins, 87–90, assoc, 90–93; librarian, *Smithsonian Inst,* 92–05, *asst. sec'y, 05–; curator hist. religions and hist. archeol, U. S. Nat. Mus.* Representative of Columbian Expos. to Turkey, Egypt, Morocco, etc. Delegate for U. S. Govt. to Conf. on Int. Catalogue of Sci. Lit, London, 98. Archeol. Inst; Am. Jewish Hist. Soc. (pres.); Philol. Ass; Modern Lang. Ass; Oriental Soc; Philos. Soc; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc; Wash. Anthrop. Soc. Assyriology; Jewish antiquities and history.—History of the Jews on the American continent.

Adler, Prof. Felix, 123 E. 60th St, New York, N. Y. *Ethics.* Alzey, Germany, Aug. 13, 51. A.B, Columbia, 70; Ph.D, Heidelberg, 73. Non-res. prof. Hebrew and Oriental lit, Cornell, 74–76; *leader, Society for Ethical Culture, 76–; prof. political and social ethics, Columbia, 02–* Mem. ed. board, 'Int. Jour. of Ethics.' Philos. Ass. Philosophical and practical ethics.

Adler, Dr. I(saac), 12 E. 60th St, New York, N. Y. *Medicine.* Alzey, Germany, April 6, 49. A.B, Columbia, 68; M.D, Heidelberg, 71. *Prof. clin. med, N. Y. Polyclinic Med. Sch, 92–* F.A.A; Soc. Nat; Am. Physicians; Ass. Path. and Bact; Soc. Exp. Biol. and Med. Experimental pathology and histology; clinical medicine.

Adriance, Prof. John S(abin), 105 E. 39th St, New York, N. Y. *Chemistry.* New York, Feb. 18, 61. A.B. Williams, 82, A.M, 85, Ph.D, 90. *Prof.*

chem. and toxicol, N. Y. Homeop. Med. Col, 97– F.A.A; Chem. Soc; Soc. Chem. Indust; fel. London Chem. Soc. Breast milk.—Ash of breast milk composition.

Agassiz, Alexander, Cambridge, Mass, or Newport, R. I. **Thalassography, Geology, Zoology.* Neufchâtel, Switzerland, Dec. 17, 35. A.B, Harvard, 55, B.S, 57 and 62, fellow, 78–84, 86–90. Asst, U. S. Coast Surv, 59–60; agent, Mus. Comp. Zool, Cambridge, 61–69, curator and director, 74–98; *director, Univ. Mus, Harvard, 02–* Lecturer, Harvard, 63, overseer, 73–78, 85. LL.D, Harvard, 85; St. Andrews, 01; hon. Ph.D, Bologna, 88; hon. Sc.D, Cambridge, 87; Officier Légion d'honneur; Ordre pour le Mérite; Prix Serres, Paris Acad. Nat. Acad. (pres.); Soc. Nat; Am. Acad. (pres.); Philos. Soc; hon. mem. N. Y, Cal. and Chicago Academies; London Zool. Soc; London Linnean Soc; Royal Societies of London, Edinburgh, Göttingen, Munich, Berlin, Vienna, Stockholm, Upsala, Prague, Copenhagen, Bologna and Rome; for. assoc. Paris and Geneva Academies. Marine zoology; embryology of fishes; annelids; acalephs; echinoderms; coral reefs; deep-sea explorations; deep-sea echini.

Aikins, Prof. H(erbert) Austin, 40 Cornell St, Cleveland, O. *Philosophy, Psychology.* Toronto, Can, March 1, 67. A.B, Toronto, 87; Ph.D, Yale, 91; hon. fellow, Clark, 92–93. Instr. philos, Southern California, 88; lecturer, Yale, 90–91; *prof.* philos. and logic, Trinity (N. C.), 91–92; *philos, Col. for Women, Western Reserve, 93–* Philos. Ass; Psychol. Ass. Philosophy; logic.

Aitken, Prof. R(obert) G(rant), Lick Observatory, Mt. Hamilton, Cal. **Astronomy.* Jackson, Cal, Dec. 31, 64. A.B, Williams, 87, A.M, 92. Instr. math, Livermore, 88–91; prof. math. and astron, Pacific, 91–95; *asst. astronomer, Lick Observatory, 95–* Principal, Acad, Pacific, 93–95. Hon. Sc.D, Pacific, 03. M.A.A; Astron. and Astrophys. Soc; Pacific Astron. Soc. (ed, 97–, pres, 98). Double stars; faint satellites; comets; photometry.—Observation of rapid binary stars and Satellite V of Jupiter; systematic search for new double stars; photometric measures of faint stars.

Albee, Prof. Ernest, 142 Cascadilla Place, Ithaca, N. Y. *Philosophy.* Langdon, N. H, Aug. 8, 65. A.B, Vermont, 87; fellow, Clark, 90–91; fellow, Cornell, 91–92, Ph.D, 94. Instr. *philos, Cornell,* 92–02, *asst. prof, 02–* Co-editor, 'Philos. Rev.' Philos. Ass; Psychol. Ass. History of ethics.

Albert, Prof. Henry, Iowa City, Ia. *Pathology, Bacteriology.* Walcott, Ia, Oct. 11, 78. B.S, Iowa, 00, fellow, 01–02, M.D, 02, M.S, 02; Vienna, 03. Instr. *path. and bacter, Iowa,* 02–03, *prof, 03–; director, State Bacter. Lab, 04–* Asst. physician, State Insane Asylum, Independence, Ia; pathologist, Univ. Hosp, Iowa, 03– Am. Med. Ass; Iowa Med. Ass; Iowa Union Med. Soc. Etiology of carcinoma; leucocytes; sarcoma of the spleen.—Pseudo-parasites; cirrhosis of the liver; hypernephroma; isolation of bacillus typhosus; bacteriology and biology of natural waters of Iowa.

Alden, Brig. Gen. C(harles) H(enry), U. S. A. (retired), Care War Department, Washington, D. C. *Medico-military science.* Philadelphia, Pa, April 28, 36. A.M, Brown, 56; M.D, Pa. Med. Col, 58. Acting asst. surgeon, U. S. A, 59–60, asst. surgeon, 60–66, surgeon, 66–88, deputy surgeon gen, 88–92, asst. surgeon gen, 92–00, brig. gen, retired, 04. Med. director, Dept. Dakota, St. Paul, 88–93; pres. of Faculty and lecturer on duties of med. officers, Army Med. Sch, 93–00. Brevets of major and lieut. col, U. S. A, 65; hon. M.D, Pennsylvania, 01. Delegate, Tenth Int. Med. Cong, Berlin, 90; Second Pan.-Am. Med. Cong, Mex, 96. Ass. Mil. Surg. (pres, 99); Am. Med. Ass; fel. Am. Acad. Med; Pub. Health Ass; Climat. Ass; Mil. Order Loyal Legion; Mil. Order Spanish-Am. War; cor. fel. N. Y. Acad. Med. Medico-military researches.

Alden, Prof. Geo(rge) I(ra), 48 Queen St, Worcester, Mass. *Mechanical engineering.* Templeton, Mass, April 22, 43. B.S, Harvard, 68; M.M.E, Cornell, 90. Head, Dept. Mech. Eng, Worcester, 68–96; *treas. and consulting engineer, Norton Emery Wheel Co. and Plunger Elevator Co, Worcester, Mass, 96–* Mem. Worcester Sch. Committee, 94– (chairman, 2 years). Mech. Eng. (v. pres, 91–93). Cylinder condensation in steam-engine; power transmission and measurement.

Alden, John, Pacific Mills, Lawrence, Mass. **Chemistry.* Randolph, Mass, May 9, 56. B.S, Mass. Inst. Tech, 77. Asst, Mass. Inst. Tech, 77–78; *chemist, Pacific Mills, 78–* F.A.A; Chem. Soc; Soc. Chem. Indust; Electrochem. Soc; British Soc. Dyers and Colorists. Chemistry of printing and dyeing.

Alden, Dr. W(illia)m C(linton), 4 R St, N. W, Washington, D. C. *Geology.* Mitchell, Ia, Sept. 27, 71. A.B, Cornell (Ia.), 93; fellow, Chicago, 97–98, A.M, 98, Ph.D, 03. Asst. principal, High Sch, Parker, S. Dak, 93–94; principal schools, Centerville, S. Dak, 94–95; special field asst, *U. S. Geol. Surv,* 96–01, *asst. geologist, 01–* Non-res. reader and non-res. docent geol, Chicago, 03– Fel. Iowa Acad. Glacial geology.—Glacial geology of Wisconsin.

Alderson, Pres. Victor C(lifton), Colorado School of Mines, Golden, Colo. *Mathematics, Technical education.* Plymouth, Mass, June 4, 63. A.B, A.M, Harvard, 85. Supt. schools, Dublin, Ind, 85–87; instr. math, High Sch, Englewood, Ills, 87–93; prof, Armour Inst, 93–99, dean, Tech. Col, 99–03; *pres, Colo. Sch. of Mines, 03–* Mem. Advisory Committee, Carnegie Tech. Sch, Pittsburg, 01. Hon. Sc.D, Beloit and Armour Inst, 03. F.A.A; Eng. Educ; Social Sci. Ass; West. Soc. Eng; Colo. Sci. Soc. Technical education.

Aldrich, Charles, Des Moines, Ia. *Ornithology, History.* Ellington, N. Y, Oct. 2, 28. Pub. schools. Chief clerk, House of Rep, Ia, 60–62, 66–70, mem, 82; *curator, State Hist. Dept, Ia,*

92– Adjutant, 32d Iowa Inf, 62–64. Hon. A.M, Iowa (Grinnell), 69. Fel. Ornith. Union; state hist. societies. Historical collections; museum building.—Iowa history.

Aldrich, Prof. J(ohn) M(erton), Moscow, Idaho. *Entomology.* Little Valley, Minn, Jan. 28, 66. B.S, S. Dak. Agr. Col, 88, M.S, 91; Mich. Agr. Col, 89–90; M.S, Kansas, 93. Asst. zool, S. Dak. Agr. Col, 89–92; *prof. zool, Idaho, and entomologist, Exp. Sta, 93–* Ass. Econ. Entom; Northwest Econ. Entom. Classification and literature of Diptera.—Catalogue of North American Diptera.

Aldrich, Dr. T(homas) B(ell), Care Parke Davis and Co, Detroit, Mich. *Physiological chemistry.* Port Jefferson, N. Y, June 10, 59. Albany Nor. Col, 79–82; Ph.D, Jena, 92. Principal pub. schools, 82–88; asst. chem, Jena, 91; prof. physics and chem, Lake View High Sch, Chicago, 92–93; assoc. physiol. chem, Hopkins, 93–98; *research chemist, Parke Davis and Co, 98–* Physiol. Soc; Chem. Soc. New derivatives of phenylmethylpyrazolons; secretions of the anal glands of mephitis mephitica; chloretone; brometone; adrenalin.—Synthetic adrenalin; hypophysis; enzymes; antitoxin; synthetic camphor.

Aldrich, T(ruman) H(eminway), 1739 P St, N. W, Washington, D. C. *Paleontology.* Palmyra, N. Y, Oct. 17, 48. M.E, Rensselaer, 69. Asst, Ala. Geol. Surv; *coal operator and mining engineer, Birmingham, Ala.* Mem. 54th Congress. Geol. Soc; Min. Eng; Civil Eng. Tertiary paleontology.—Stratigraphy of the Tertiary.

Aldrich, Director W(illia)m S(leeper), Potsdam, N. Y. *Electrical and mechanical engineering.* Philadelphia, Pa, March 3, 63. Grad, U. S. Naval Acad, 83; M.E, Stevens, 84. Asst, Boys' High Sch, Reading, Pa, 85–87; Phila. Manual Training Sch, 87–89; instr. drawing, Hopkins, 89–91, assoc. mech. eng, 91–92; head dept. and prof. mech. eng, West Virginia, 93–99; head dept. and prof. elec. eng, Illinois, 99–01; *director, Thomas S. Clarkson Mem. Sch. of Tech, 01–* Past asst. engineer, U. S. N. F.A.A; Mech. Eng; Elec. Eng; Eng. Educ; Nat. Geog. Soc. Electrical and mechanical engineering.

Alexander, Dr. Archibald, 10 W. 54th St, New York, N. Y. *Philosophy.* New York, Oct. 30, 55. A.B, Princeton, 75, A.M, 76, Ph.D, 77; Berlin, Vienna and Heidelberg, 75–77. Adj. prof. philos, Columbia, 77–82, prof, 82–89. Psychol. Ass. History of philosophy; psychology.

Alexander, Gen. Edward Porter, Augusta, Ga. *Civil engineering.* Washington, Ga, May 26, 35. Grad, U. S. Mil. Acad, 57. Lieut. engineers, U. S. A, 57–61, capt, 61; lieut. col. of ordnance, C. S. A, 61, brig. gen. of artil, 64; prof. math. and eng, South Carolina, 65; supt. and pres, many railroads in South, 71–92; on govt. boards of engineers for improv. of navig. of Columbia River, 92–93, for selection of canal route from Chesapeake to Delaware Bay, 94; engineer arbitrator, Nicaragua and Costa Rica Boundary Surv, 97–00. Gold medal, Nicaragua, 00. Railroad management and traffic.—Military records and criticisms of Civil War.

Alexander, Dr. H(artley) B(urr), 384 St. James Ave, Springfield, Mass. *Psychology.* Lincoln, Nebr, April 9, 73. A.B, Nebraska, 97; Harrison fellow, Pennsylvania, 98–00; fellow, Columbia, 00–01, Ph.D, 01. Asst. ed, 'New Int. Encyclopedia,' 03; *with G. and C. Merriam Co, 03–* Metaphysics.—Imaginative processes.

Alexander, Prof. W(illiam) D(e Witt), P. O. Box 732, Honolulu, H. T. *Ethnology, Folk-lore.* Honolulu, April 2, 33. A.B, Yale, 55, A.M, 58. Prof. Greek, Oahu Col, H. I, 58–64, pres, 64–71; surveyor-gen, H. I, 71–00; *asst, U. S. Coast and Geod. Surv, 01–* Mem. Hawaiian Privy Council, 84–93; Board of Educ, 87–05. Order of Kalakaua, 84; LL.D, Yale, 03. Pacific Astron. Soc; Polynesian Soc; Hawaiian Hist. Soc. (pres.); fel. Royal Geog. Soc. Polynesian languages, folk-lore and ancient polity; Hawaiian history and ethnology.

Aley, Prof. Robert J(udson), 203 Forest Place, Bloomington, Ind. *Mathematics.* Arney, Ind, May 11, 63. A.B, Indiana, 88, A.M, 90; Harrison fellow, Pennsylvania, 96–97, Ph.D, 97. Instr. *math,* Indiana, 87–88; *prof,* Vincennes, 88–91; *Indiana, 91–* Acting asst. prof. math, Stanford, 94–95; ed, 'Educator-Jour,' 03–M.A.A; Math. Soc; fel. Ind. Acad; London Math. Soc; Edinburgh Math. Soc; Math. Verein. Modern pure geometry.

Alford, Prof. T(homas) G(reene), 527 Wood St, West Lafayette, Ind. *Mathematics.* Alfordsville, Ind, March 26, 52. A.B, Indiana, 71, A.M, 88. Teacher, common schools, 71–75; high schools, Ind, 75–81; supt. schools, Vevay, Ind, 81–84; principal, High Sch. No. 2, Indianapolis, 84–89, supervising principal, 89–92; *prof. math, Purdue, 92–* Ind. State Teachers' Ass. Education; theory of high school education; sociology.

Algué, Rev. J(oseph), S.J, Manila Observatory, Manila, P. I. *Meteorology.* Manresa, Spain, Dec. 28, 56. Toulouse, France, 72–77; Georgetown, 91–93, Ph.D, 93. Prof. physics, Zaragoza, Spain, 78–84; Tortosa, 84–88; asst. director, *Manila Observatory,* 94–97, *director,* 97–Commissioner from Spanish Govt. to Columbian Expos, 93; asst. director, Observatory, Georgetown, 91–93. Int. Cong, Paris, 00; St. Louis, 04. Meteorology; cyclones; climate of the Philippine Islands.

Allardice, Prof. R(obert) E(dgar), Stanford University, Cal. *Mathematics.* Edinburgh, Scotland, March 2, 62. A.M, Edinburgh, 82. Asst. prof. *math,* Edinburgh, 82–92; *prof, Stanford, 92–* Math. Soc; fel. Edinburgh Royal Soc; Edinburgh Math. Soc. (ed, 'Proc,' 89–91). Geometry.—Properties of certain systems of conics.

Alleman, Prof. Gellert, Swarthmore College, Swarthmore, Pa. *Chemistry.* Littlestown, Pa, July 23, 71. B.S, Pennsylvania Col, 93; Ph.D, Hopkins, 97. Instr. *chem,* Maine, 97–98; Wash-

ington (St. Louis), 98–02; *prof, Swarthmore, 02–* M.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Diazo-compounds; chemistry of Portland cements; action of chemicals on wood fiber.—Action of chemicals on wood fiber; phenol ethers; relative efficiency of antiseptics towards various organisms.

Allen, Dr. B(ennet) M(ills), Science Hall, Madison, Wis. *Embryology.* Greencastle, Ind, July 4, 77. Ph.B, De Pauw, 98; Cornell, 99; Ph.D, Chicago, 03. *Instr. anat, Wisconsin, 03–* M.A.A; Soc. Nat; Ass. Anat. Embryonic development of ovary and testis of the mammals; anatomy of Hirudo; eye of Bdellostoma.—Embryonic development of ovary and testis of the turtle.

Allen, Prof. C(alvin) Frank (Francis), Montview St, West Roxbury, Mass. *Engineering.* Roxbury, Mass, July 10, 51. B.S, Mass. Inst. Tech, 72. Civil engineer, Water Works and Sewerage, 72–78; railroad engineer, 79–85; attorney-at-law, 85–86; asst. prof, later assoc. prof. and *prof. railroad eng, Mass. Inst. Tech, 87–* Civil Eng; Eng. Educ. (sec'y and pres.); Am. R. R. Eng. and Maintenance of Way Ass; Statist. Ass; Mass. Highway Ass. (pres.); Boston Soc. Civil Eng. (pres, 99–00). Railroad engineering.

Allen, Prof. Charles E(lmer), 810 W. Johnson St, Madison, Wis. *Botany.* Horicon, Wis, Oct. 4, 72. B.S, Wisconsin, 99, Ph.D, 04. Instr. *bot, Wisconsin,* 01–04, *asst. prof, 04–* Research asst, Carnegie Inst, 04–05. Nat. Cent. States; Bot. Cent. States. Middle lamella in thickened cell walls; spindle formation in pollen-mother-cells of larch; nuclear division and chromosome reduction in pollen-mother-cells of lily.—Germination of egg and chromosome reduction in Coleochæte; chromosome reduction in Rhodophyceae.

Allen, Prof. Charles M(etcalf), 8 Dean St, Worcester, Mass. *Mechanical engineering.* Walpole, Mass, Dec. 12, 71. B.S, Worcester, 94, M.S, 99. Asst. mech. eng, *Worcester,* 95–97, instr. hydraul. and lab. work, 97–02, *asst. prof. exp. eng, 02–* M.A.A; Mech. Eng; Eng. Educ; assoc. Civil Eng. Absorption dynamometers; application of the steam-engine indicator to rowing.—Absorption dynamometers of large powers; water-wheel flow recorders for wheels under variable heads and with variable gate openings.

Allen, Charles R(icketson), New Bedford, Mass. *Chemistry, Education, Physics.* New Bedford, Aug. 6, 62. B.S, Mass. Inst. Tech, 85; A.M, Harvard, 02. *Senior teacher science, High Sch, New Bedford, 86–* Asst. gen. chem, Mass. Inst. Tech, 86; private asst. to Prof. Wolcott Gibbs, Harvard, 86. Chem. Soc; Eastern Ass. Physics Teachers; New Eng. Ass. Chem. Teachers. Nitrogen in sewage; dissociation of acetylene. —Education.

Allen, Dr. E(dwin) W(est), 1725 Riggs Place, Washington, D. C. *Agriculture, Agricultural chemistry.* Amherst, Mass, Oct. 28, 64. B.S, Mass. Agr. Col, 85; Ph.D, Göttingen, 90. Asst. chemist, Mass. Agr. Exp. Sta, 85–88; asst, *Office of Exp. Stations, U. S. Dept. Agr,* 90–93, *asst. director, 93–* Ed, 'Exp. Sta. Record,' 95– M.A.A; Chem. Soc; Chem. Gesell. Chemistry of carbohydrates; organization and work of agricultural experiment stations of the world.

Allen, Dr. E(ugene) T(homas), 1348 Roanoke St, Washington, D. C. **Chemistry.* Athol, Mass, April 2, 64. A.B, Amherst, 87; Ph.D, Hopkins, 92; Harvard, 93–95. Assoc. chem, Woman's Col. of Baltimore, 90–91; acting prof, Colorado, 92–93; prof, Sch. of Mines, Missouri, 95–00; *chem. geologist, U. S. Geol. Surv, 00–* Instr, Summer Sch, Harvard, 93–94. Chem. Soc. Inorganic chemistry.—Application of weak bases, especially phenyl hydrazin, to chemical analysis; rock magmas.

Allen, Dr. Frank, University of Manitoba, Winnipeg, Can. *Experimental physics.* Canterbury, N. B, Feb. 6, 74. A.B, New Brunswick, 95; A.M, Cornell, 00, Ph.D, 02. Principal, High Sch, Moncton, N. B, 95–99; instr. *physics,* Cornell, 01–04; *prof, Manitoba, 04–* F.A.A; Physical Soc. Color vision; efficiency of liquid air production; electrostriction.—Color vision; aluminum cell.

Allen, Dr. J(oel) A(saph), American Museum of Natural History, New York, N. Y. **Vertebrate zoology.* Springfield, Mass, July 19, 38. Lawrence Sci. Sch, Harvard, 62–67, Humboldt scholar, 71. Asst. ornith, Mus. Comp. Zool, Harvard, 71–85; *curator mammalogy and ornith, Am. Mus. Nat. Hist, 85–* Chief, Scientific Staff of Govt. Exped, North. Pacific R. R. Surv, 73; special collaborator, U. S. Geol. and Geog. Surv. (Hayden), 78–83; ed, 'Bul. Nuttall Ornith. Club,' 76–83; 'The Auk,' 84–; 'Bulletin' and 'Memoirs,' Am. Mus. Nat. Hist, 87– Hon. Ph.D, Indiana, 86. Nat. Acad; Soc. Nat; fel. Ornith. Union (pres, 83–91); Geog. Ass; Philos. Soc; Am. Acad; fel. N. Y. Acad. (v. pres, 92–93); Wash. Acad; for. mem. British Ornith. Union; for. mem. London Zool. Soc; etc. American mammals and birds; geographical zoology.—North American Rodentia and Pinnipedia; mammals of Patagonia; mammals and birds of northeastern Siberia and of Colombia; the genus Didelphys.

Allen, Prof. John R(obins), 226 S. Ingalls St, Ann Arbor, Mich. *Mechanical engineering.* Milwaukee, Wis, July 23, 69. B.S, Michigan, 92, M.E, 96. Sec'y, L. K. Comstock Construction Co, 93–95; instr. *mech. eng, Michigan,* 96–99, asst. prof, 99–02, *junior prof, 02–* Consulting engineer, Detroit. M.A.A; Mech. Eng; Detroit Eng. Soc. Heating and ventilation.—Manufacture of peat into a fuel.

Allen, Joseph, 162 E. 79th St, New York, N. Y. *Mathematics.* New Bedford, Mass, March 21, 70. A.B, A.M, Harvard, 92, grad. student, 92–94. *Instr. math,* Cornell, 94–97; *Col. City of N. Y, 97–* Math. Soc. Analytical geometry.

Allen, Kenneth, Water Department, Atlantic City, N. J. *Hydraulic and sanitary engineering.* New Bedford, Mass, April 6, 57. C.E, Rensselaer, 79. Consulting engineer, 85–89; city

supt. construction, Kansas City, Mo, 89–90; principal asst. engineer, Baltimore Sewerage Commission, 95–99; consulting engineer, Baltimore, 00–02; *engineer and supt, Water Dept, Atlantic City, N. J, 02–* Mem. Atlantic City Board of Trade. Civil Eng; New Eng. Water Works Ass; Rensselaer Soc. Eng.

Allen, W(illiam) F(rederick), 24 Park Place, New York, N. Y. *Metrology, Railway economics.* Bordentown, N. J, Oct. 9, 46. Episcopal Acad, Phila. With engineer corps, Camden and Amboy R. R, 62–68; res. engineer, West Jersey R. R, 68–72; asst. ed, *'Official Railway Guide,'* 72, *ed. and manager, 73–; sec'y, Am. Ry. Ass, 75–* U. S. official delegate, Int. Meridian Conf, 84; Int. Ry. Cong, Paris, 00; delegate of Am. Ry. Ass, Int. Ry. Cong, London, 95; Paris, 00; Washington, 05. Metrol. Soc; Econ. Ass; Civil Eng; Acad. Polit. and Social Sci; Statist. Ass; Nat. Geog. Soc; Am. Geog. Soc; N. J. Hist. Soc; Am. Sect. Int. Ry. Cong; hon. mem. Vienna K. K. Geog. Gesell. Unification in time reckoning; uniform practise in rules of railway operation and statistics.

Allis, Dr. Edward Phelps, Jr, Milwaukee, Wis. or Palais Carnolès, Menton, France. **Vertebrate morphology.* Milwaukee, Sept. 14, 51. C.E, Antioch, 66, grad. student, 67–68; Mass. Inst. Tech, 68–69, 71. *Mem. and officer of Edw. P. Allis Co, Milwaukee, 71–* Co-editor, 'Jour. of Morph.' Laureat, Paris Inst, 98; LL.D, Wisconsin, 03. F.A.A; Soc. Nat; Soc. Zool; Ass. Anat; fel. N. Y. Acad; Boston Soc. Nat. Hist; London Linnean Soc. The anatomy and development of the head of fishes.

Almy, Prof. Frank F(ayette), 436 East St, Grinnell, Ia. *Physics.* Little Compton, R. I, Jan. 12, 66. B.S, Nebraska, 90; Hopkins, 90–93; Chicago, 99, 01–02. *Prof. physics, Iowa (Grinnell), 93–* Physical Soc. Some properties of coherers.—Pressure shift of lines in the spectrum of iron.

Almy, Dr. John E(dwin), Station A, Lincoln, Nebr. *Physics.* Centralia, Ills, Oct. 13, 75. B.S, Nebraska, 96, A.M, 97; Ph.D, Berlin, 00. Instr. *physics, Nebraska,* 00–02, adj. prof, 02–05, *asst. prof, 05–* F.A.A; Physical Soc; Nebr. Acad. Accidental double refraction; spark potentials with liquid and solid dielectrics; discharge through gases; dielectric strength of various glasses and double refracting media; evidence of cathode potential in spark discharge.—Spark potentials.

Alpers, Dr. William C(harles), 66 W. 56th St, New York, N. Y. *Pharmaceutical chemistry.* Harburg, Germany, July 7, 51. Polytech, Hanover, Germany, 69–72; Göttingen, 72; N. Y. Col. Pharmacy, 78–79; Sc.D, N. Y. Univ, 99. Instr. math. and nat. sciences, St. Matthews Acad, N. Y, 73–79; practising chemist, 79–97; conductor, Merck's Chem. and Bacter. Laboratories, 97–99; *pres, Alpers Chem. Co, 01–* M.A.A; Chem. Soc; Pharmaceut. Ass. (pres, Sci. Sect, 96); Torrey Bot. Club; N. Y. Pharmaceut. Ass; N. J. Pharmaceut. Ass. (pres, 99); Wissentsch. Verein. The oils and terpenes of Aralia nudicaulis; alkaloids.—A volatile alkaloid in Sambucus Canadensis.

Alway, Prof. Frederick J(ames), University Place, Nebr. *Chemistry.* Waterford, Ont, May 28, 74. A.B, Toronto, 94; Ph.D, Heidelberg, 97. *Prof. chem, Nebr. Wesleyan, 98–* Chem. Soc; Chem. Gesell. Reduction of nitro-compounds; preparation of hydroxylamino- and nitroso-compounds; nitroso-esters; electrolytic reduction of nitro-compounds; aromatic nitroso-compounds.—Alkaline soils.

Alwood, Prof. W(illia)m B(radford), Charlottesville, Va. *Mycology, Agriculture.* Delta, O, Aug. 11, 59. Ohio State, 82–84; Columbian, 87–88. Teacher, pub. schools, 79–81; supt, Ohio Agr. Exp. Sta, 82–86; asst. entomologist, U. S. Dept. Agr, 86–88; v. director, entomologist and botanist, Va. Agr. Exp. Sta, 88–91, horticulturist, entomologist and mycologist, 92–04; prof. hort, entom. and mycol, Va. Polytech, 91–04; *special agent in charge investigations in œnol. tech, Bur. Chem, U. S. Dept. Agr, 04–* Special agent to study œnology in Europe, Div. Chem, U. S. Dept. Agr, 00– F.A.A; Wash. Biol. Soc; Wash. Entom. Soc; fel. Royal Hort. Soc. Economic entomology and horticulture; alcoholic ferments and malfermentations.—Biology of alcoholic ferments; economic disposal of unmerchantable fruits.

Amberg, Dr. Samuel, 1220 Linden Ave, Baltimore, Md. *Medicine.* Cannstatt, Germany, Aug. 15, 74. Gymnasium, Cannstatt; Berlin, 95–96; M.D, Heidelberg, 98. Asst. and instr. *pediat, Hopkins, 99–03, assoc, 03–* Physiol. Soc; Am. Acad. Med; Md. Med. and Chirurg. Faculty. Pediatrics; pharmacology; physiological chemistry.—Methods of determining quantitatively hydrogen peroxid in milk.

Ames, Prof. J(oseph) S(weetman), 225 Preston St, W, Baltimore, Md. **Physics.* Manchester, Vt, July 3, 64. A.B, Hopkins, 86; Berlin, 86–87; fellow, Hopkins, 87–88, Ph.D, 90. Asst. *physics, Hopkins,* 88–91, assoc, 91–93, assoc. prof, 93–99, *prof, 99–, director, Physical Lab, 01–* Asst. ed, 'Astrophys. Jour'; assoc. ed, 'Am. Jour. of Science.' Physical Soc; Astron. and Astrophys. Soc; Philos. Soc; hon. mem. Royal Inst; Soc. de Physique. Spectroscopy.—Spectrum of hydrogen.

Ames, Dr. L(ewis) D(arwin), 1501 Windsor St, Columbia, Mo. *Mathematics.* Keeseville, N. Y, July 11, 69. B.Litt, Missouri, 99; A.B, Harvard, 01, A.M, 02, Ph.D, 04. *Instr. math,* Chillicothe Nor. Sch, Mo, 90–98, 99–00; Harvard, 01–02; *Missouri, 02–* Math. Soc. Slowly convergent series; analysis situs.

Ames, Oakes, North Easton, Mass. *Botany.* North Easton, Sept. 26, 74. A.B, Harvard, 98, A.M, 99. Asst. *bot, Harvard,* 99–00, *instr, 00–, asst. director, Bot. Garden, 99–* F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; Forestry Ass; Breeders' Ass; New Eng. Bot. Club; Mass. Hort. Soc. (past v. pres.); Boston Soc. Nat. Hist; Wash. Biol. Soc. Hybridization in plants;

improvement of useful plants; orchids.—Embryology of orchids; hybridization in Lobelia and Cypripedium; Philippine orchids.

Ami, Dr. Henry M, Geological Survey of Canada, Ottawa, Can. *Geology, Paleontology.* A.B, McGill, 82, A.M, 85; Sc.D, Queen's (Can.), 91. *Paleontologist, Can. Geol. Surv, 82–* Mem. various commissions for Govt. of Can. Bigsley gold medalist, London Geol. Soc, 03. Geol. Soc; Wash. Geol. Soc; Montreal Nat. Hist. Soc; Ottawa Field Nat. Soc; N. B. Nat. Hist. Soc; N. S. Inst; Hamilton Ass; fel. London Geol. Soc; Schweiz. Geol. Gesell. Chronological geology; Paleozoic faunas; paleontology; bibliography. —Paleozoic faunas of eastern Canada.

Anderegg, Prof. F(rederick), 207 E. College St, Oberlin, O. *Mathematics.* Meiringen, Switzerland, June 11, 52. A.B, Oberlin, 85, A.M, 88; A.M, Harvard, 89. Tutor *math,* Oberlin, 85–88; instr, Harvard, 89–90; *prof, Oberlin, 90–* Mathematics.

Anderson, Dr. Alexander P(ierce), Railway Exchange Building, Chicago, Ills. **Botany.* Red Wing, Minn, Nov. 22, 62. B.S, Minnesota, 94, M.S, 95; Ph.D, Munich, 97. Botanist and bacteriologist, Clemson, 97–99; asst. prof. bot, Minnesota, 99–00; biologist and entomologist, Clemson, 00–01; curator, Herbarium, Columbia, 01. F.A.A; Bot. Gesell. Formation of abnormal resin-canals in Coniferae; growth of fruits determined by weighing; plant diseases; starch and starchy products.

Anderson, Prof. Douglas S(mith), 1556 Webster St, New Orleans, La. *Electrical engineering.* Lexington, Va, Sept. 6, 71. A.B, Washington and Lee, 90; A.M, Tulane, 92. Asst. prof. physics, Tulane, 93–97, assoc. prof, 97–00; prof. *elec. eng,* Mississippi, 00–01; *assoc. prof, Tulane, 01–* M.A.A; Elec. Eng; Eng. Educ.

Anderson, Frank M, 2604 Etna St, Berkeley, Cal. *Geology, Mineralogy.* Ashland, Ore, June 4, 63. A.B, Willamette, 89; A.B, Stanford, 95; M.S, California, 97. Prof. nat. science, Siskiyou Co. High Sch, Cal, 95–96; teacher miner, California, 97–98; *geologist, S. P. Co, 01–* Curator paleont, Cal. Acad. Sciences, 03, 05. Geol. Soc. Geology; paleontology.—Economic geology of northern California.

Anderson, Major Geo(rge) L(ucius), U. S. Artillery Corps, Washington, D. C. *Electrical engineering.* Delafield, Wis, April 9, 49. A.M, Lawrence, 70; grad, U. S. Mil. Acad, 74; Naval War Col, 97. Second lieut, U. S. A, 74–81, first lieut, 81–98; instr. math, U. S. Mil. Acad, 85–89; elec. and mines, Officers' Sch, Ft. Monroe, 89–95; capt, Seventh Artil, 98–02, *major, U. S. Artil. Corps, 02–* Mem. Ordnance Board, U. S. Proving Ground, Sandy Hook, 03– Philos. Soc; hon. mem. Franklin Inst. (mem. Board on Tests of Dynamos and Lamps, 84–85). Range-finders and sights; electric control of heavy guns; operation of submarine mines; telescopes for sights.

Anderson, Dr. Leroy, San Luis Obispo, Cal. *Animal and dairy industry.* Magee, N. Y, Dec. 4, 66. B.S, Cornell, 96, fellow, 96–97, M.S.A, 97, Ph.D, 02. Asst. dairy husbandry, Cornell, 97–00; instr. animal and dairy indust, California, 00–02; *director, Cal. Polytech. Sch, 02–* Breeders' Ass; N. Y. State Dairy Ass; Cal. Dairy Ass. Effect of food upon milk of dairy cows.

Andrews, C(lement) W(alker), The John Crerar Library, Chicago, Ills. *Chemistry, Library economy.* Salem, Mass, Jan. 13, 58. A.B, Harvard, 79, A.M, 80. Instr. chem, Mass. Inst. Tech, 83–95, *librarian,* 89–95; *John Crerar Library, 95–* Ed, 'Tech. Quarterly,' 91–95. Chem. Soc; Soc. Chem. Indust; Library Ass; Chem. Gesell. Optical analysis of sugar.—The best arrangement of a scientific and technical reference library.

Andrews, Dr. Edmund, 3912 Lake Ave, Chicago, Ills. *Surgery, Geology, Archeology.* Putney, Vt, April 22, 24. A.B, Michigan, 49, A.M, M.D, 52. Prof. comp. anat. and demonstrator anat, Michigan, 52–56; prof. surg, Chicago Med. Col, 58–04. Surgeon, U. S. A; Mercy Hosp, Chicago, 59. LL.D, Michigan, 80. Am. Med. Ass; Ills. Med. Soc; Chicago Surg. and Med. Societies; Chicago Acad. (past pres.); Davenport Acad. Rectal and anal surgery; boulder drift; Pleistocene deposits and their remains.—Surgery; ethnology.

Andrews, Prof. E(than) A(llen), 821 St. Paul St, Baltimore, Md. **Biology.* New York, N. Y, Sept. 10, 59. Ph.B, Yale, 81; Polytech, Hanover, 83; fellow, Hopkins, 84–86, Ph.D, 87. Asst, U. S. Fish Commission, 79–81; asst. *biol, Hopkins,* 87–92, *assoc. prof, 92–* Assoc. ed, 'Am. Naturalist,' 92– Soc. Zool. (v. pres, 91–92, pres, 04); Wash. Acad. Eyes of annelids; anatomy and embryology of invertebrates.—Pteropodial activities in leucocytes; reproduction in crayfish.

Andrews, Mrs. E. A. (Gwendolen Foulke), 821 St. Paul St, Baltimore, Md. *Biology.* Bala Farm, Pa, June 26, 63. Private sch; hearer in biol, Bryn Mawr, 88. Rotatoria; Infusoria; structure and habits of protoplasm; psychology and education of children.—Structure and habits of protoplasm; certain basic mental phenomena; animal and child psychology.

Andrews, Dr. Frank M(arion), 901 E. Tenth St, Bloomington, Ind. *Botany.* Vienna, Ind, 72. A.B, Indiana, 94, A.M, 95; Ph.D, Leipzig, 02. Asst. *bot, Indiana,* 94–97, instr, 97–04, *asst. prof, 04–* F.A.A; Ind. Acad. Physiological botany.—Effects of gases on plant cells.

Andrews, Dr. Grace, 47 Brevoort Place, Brooklyn, N. Y. *Mathematics.* Brooklyn, May 30, 69. B.S, Wellesley, 90; A.M, Columbia, 99, Ph.D, 01. Asst. math, Barnard, Columbia, 00–02. Math. Soc. The primitive double minimal surface of the seventh class and its conjugate.

Andrews, Horace, 125 Lancaster St, Albany, N. Y. *Municipal engineering, Geodetic surveying.* New Haven, Conn, March 19, 52. Ph.B, Yale, 71, C.E, 72. With U. S. Coast and Geod. Surv, 72–78; N. Y. State Trigonometric Surv, 78–84; city engineer, Albany, 86–00; *consulting engineer, 04–* Instr. surveying, Sheffield Sci.

Sch, Yale, 72–73; eng. inspector, N. Y. State Board of Health, 84–86; mem. Albany Board of Health, 86–00; examiner for eng. positions, N. Y. State Civil Service, 88–94. Civil Eng; Soc. Munic. Improv; Geom. Verein. Geodetic and higher surveying; municipal engineering.

Andrews, Prof. Launcelot W(inchester), 331 Boyle Ave, St. Louis, Mo. **Chemistry.* London, Ont, June 13, 56. Ph.B, Yale, 75; Ph.D, Göttingen, 82. Prof. chem, Iowa, 85–04; *research chemist, Mallinckrodt Chem. Works, St. Louis, 04–* Teacher physics, High Sch, Springfield, Mass, 76. Chem. Soc; Iowa Acad. (past pres.); Iowa Eng. Soc; hon. mem. Davenport Acad; London Chem. Soc; Chem. Gesell. The nascent state; volumetric methods of chemical analysis.—Measures of precision of certain volumetric methods; vapor tensions of volatile substances in dilute solutions.

Angell, Dr. F(rank), Stanford University, Cal. **Psychology.* Rhode Island, 57. B.S, Vermont, 78; Ph.D, Leipzig, 91. Teacher, High Sch, Washington, D. C, 80–87; asst. prof. *psychol,* Cornell, 91–92; *prof, Stanford, 92–* L.H.D, Vermont, 92. Psychophysics.—Sensory discrimination for different intervals of time.

Angell, Prof. James R(owland), University of Chicago, Chicago, Ills. **Psychology.* Burlington, Vt, May 8, 69. A.B, Michigan, 90, A.M, 91; A.M, Harvard, 92; Berlin and Halle, 93. Instr. philos, Minnesota, 94; asst. prof. *exp. psychol, Chicago,* 95–01, assoc. prof, 01–04, *prof. and head, Dept. Psychol, 04–* Lecturer psychol, California, 03; Wellesley, 04. Psychol. Ass. (mem. Council, 03, chairman, Western Branch, 02–03); West. Philos. Ass. (v. pres, 03). Psychology of attention; organic accompaniments of conscious processes; auditory localization; reaction-time; effect of partial tones on localization of sound; dermal space-perception. —Memory and development in motor coordination; animal intelligence; rhythm; vision; affection.

Anthony, Alfred Webster, Portland, Ore. *Ornithology.* Cayuga Co, N. Y, Dec. 25, 65. Pub. schools. Fel. Ornith. Union. Pelagic ornithology.—Pelagic and insular ornithology.

Anthony, Prof. Gardner C(hace), Tufts College, Mass. *Graphics, Design.* Providence, R.I, April 24, 56. Brown, 75–77; Tufts, 77–78, A.M, 90. Mechanical engineer, 78–85; instr, R. I. Sch. of Design, 85–87; director, R. I. Sch. Tech. Drawing, 87–93; *prof. tech. drawing and dean, Bromfield-Pearson Sch, Tufts, 93–, dean, Eng. Dept, 98–* Hon. Sc.D, Tufts, 05. Mech. Eng; Eng. Educ. Mechanical and machine drawing; gearing.

Anthony, Prof. W(illia)m A(rnold), 1427 Madison Ave, New York, N. Y. **Physics, Electrical engineering.* Coventry, R. I, Nov. 17, 35. Brown, 53–55; Ph.B, Yale, 60. *Prof.* physics and chem, Antioch, 65–69; physics, Iowa State, 69–72; Cornell, 72–87; *physics and elec. eng, Sch. of Science, Cooper Union, 94–* F.A.A. (v. pres, 87); Physical Soc; Elec. Eng. (pres, 87); Brooklyn Inst; Franklin Inst. Dynamo machinery; polarization in Cu—Zn—H_2SO_4 cell.

Appleby, Dean W(illiam) R(emsen), 911 Fifth St, S. E, Minneapolis, Minn. *Metallurgy, Assaying.* Hoboken, N. J, Feb. 11, 65. A.B, Williams, 86, A.M, 93; Sch. of Mines, Columbia, 87. Asst. anal. and pharmaceut. chem, N. Y. Col. Pharmacy, 88–89; *prof.* mining and metal, *Minnesota,* 90–91, *metal. and dean, Sch. of Mines, 00–* Chem. Soc; Min. Eng; Soc. Chem. Indust; Lake Superior Min. Inst; London Inst. Min. and Metal; N. of England Inst. Min. and Mech. Eng.

Appleton, Prof. J(ohn) H(oward), Brown University, Providence, R. I. **Chemistry.* Portland, Me, Feb. 3, 44. Ph.B, Brown, 63, A.M, 69, Sc.D, 00. Instr. *chem, Brown,* 63–68, *Newport-Rogers prof, 68–* Mem. U. S. Mint Commission, 91; consulting chemist. F.A.A; Chem. Soc. (v. pres.); Soc. Chem. Indust; N. Y. Acad. Industrial chemistry.

Arbuckle, Dr. H(oward) B(ell), Decatur, Ga. *Chemistry.* Lewisburg, W. Va, Oct. 5, 70. A.B, Hampden-Sidney, 89, A.M, 90; Virginia; Ph.D, Hopkins, 98. Fellow and instr, Hampden-Sidney, 89–90; instr, Dept. Chem. and Physics, Florida State, 91–95; *asst.* chem, Hopkins, 96–98; *Dept. Chem. and Biol, Agnes Scott Inst, Decatur, Ga, 98–* Chem. Soc; Ga. Chem. Soc. (sec'y). Atomic weight of zinc and cadmium.—Retention of gases in certain metal oxids; decomposition products of Spirogyra.

Archibald, Dr. E(benezer) H(enry), Syracuse University, Syracuse, N. Y. *Chemistry.* Brookvale, N. S, Sept. 27, 73. B.S, Dalhousie, 97, M.S, 98; A.M, Harvard, 00, Ph.D, 02. Demonstrator *chem,* McGill, 02–04; *instr, Syracuse, 04–* Chem. Soc. Conductivity of salt solutions; freezing-point of dilute solutions; atomic weight of caesium; atomic weight of rubidium; the electric conductivity of organic bodies dissolved in the liquified halogen hydrids.

Archibald, Dr. R(aymond) C(lare), Sackville, N. B, Can. *Mathematics.* South Branch, N. S, Oct. 7, 75. A.B, Mount Allison, 94, teacher's diploma in violin, Conservatory of Music, 94, artist's diploma, 95; A.B, Harvard, 96, A.M, 97, grad. student, 97–98; Berlin, 98–99; Ph.D, Strasburg, 00. Teacher *math, Mount Allison Ladies' Col,* 94–95, *prof, 00–* Librarian and head, Violin Dept, Mount Allison Ladies' Col, 00– M.A.A; Math. Soc; N. S. Hist. Soc. The cardioid and some of its related curves.

Argall, Philip, 730 Majestic Building, Denver, Colo. *Chemistry, Metallurgy, Geology.* Belfast, Ireland, Aug. 27, 54. Wicklow and Dublin schools. Manager, various mines in foreign countries and in the U. S; *consulting mining and metallurgical engineer, 01–* Geol. Soc; Min. Eng; Colo. Sci. Soc; London Inst. Min. and Metal; Royal Irish Acad. Nickel ore deposits; sampling and dry crushing in Colorado; cyaniding tellurid ores; the mineral industry.—The treatment of high grade silver ores by modifications of the cyanid process.

Armsby, Dr. H(enry) P(rentiss), State College, Pa. **Animal nutrition.* Northbridge, Mass, Sept. 21, 53. B.S, Worcester, 71; Ph.B, Yale, 74; Leipzig, 76; Ph.D, Yale, 79. Asst. chem, Worcester, 71–72; teacher nat. science, High Sch, Fitchburg, Mass, 74–75; asst. chem, Rutgers, 76–77; chemist, Conn. Agr. Exp. Sta, 77–81; v. principal, Conn. Agr. Col, 81–83; prof. agr. chem, Wisconsin, and assoc. director, Exp. Sta, 83–87; *director, Pa. State Col. Agr. Exp. Sta, 87–*, dean, Sch. of Agr, 90–02. Chairman, Committee on Coop. Exp. Sta. Exhibits, Columbian Expos, 93; Paris, 00; mem. Committee on Dairy Tests, Columbian Expos, 93; expert animal nutrition, U. S. Dept. Agr, 98– LL.D, Wisconsin, 04. F.A.A; Chem. Soc; Soc. Prom. Agr. Sci; Physiol. Soc; Ass. Agr. Col. (pres, 99). Animal nutrition; stock feeding.—Utilization of the potential energy of the food of domestic animals.

Armstrong, Prof. A(ndrew) C(ampbell), Middletown, Conn. **Philosophy.* New York, N. Y, Aug. 22, 60. A.B, Princeton, 81, fellow, 81–82, A.M, 84, Theol. Sem, 82–85; Berlin, 85–86. Assoc. prof. ecclesiastical hist, Princeton Theol. Sem, 86–87, instr. hist, Princeton, 87–88; *prof. philos, Wesleyan, 88–* Cooperating ed, 'Psychol. Rev,' 04– Hon. Ph.D, Princeton, 96. Psychol. Ass; Philos. Ass. (mem. Exec. Committee, 01–03). Historical philosophy; history of intellectual progress; eras of 'Aufklärung' in western thinking.—Historical development of the faith-philosophy; history of genetic theory.

Arnold, Dr. Ralph, U. S. Geological Survey, Washington, D. C. *Paleontology, Geology.* Marshalltown, Ia, April 14, 75. Throop, 94–96; A.B, Stanford, 99, A.M, 00, Ph.D, 02. Asst. miner, Stanford, 99; instr. chem. and physics, Hoitt's Sch, Menlo Park, Cal, 99–00; field asst, Wash. Sch. of Mines Mining Surv, 00; asst. geol, Stanford, 00–02; *aid, U. S. Geol. Surv, 03–* Temporary field asst, U. S. Geol. Surv, 00–03. M.A.A; Geol. Soc; Nat. Geog. Soc; Cal. Acad; Le Conte Geol. Soc. (sec'y, 01–03); Geol. Soc. of Am. Univ. (pres, 02–03). Pleistocene and Tertiary paleontology and stratigraphy of the western coast of North America.—Paleontology of Santa Cruz Mountains; genus Pecten, living and fossil, on the Pacific coast of North America.

Arthur, Prof. J(oseph) C(harles), Lafayette, Ind. **Botany.* Lowville, N. Y, Jan. 11, 50. B.S, Iowa State, 72, M.S, 77; Hopkins, 78–79; Harvard, 79; Sc.D, Cornell, 86; Bonn, 96. Instr. bot, Minnesota and Wisconsin, 79–82; botanist, Exp. Sta, Geneva, N. Y, 84–87; *prof. veg. physiol. and path, Purdue, 87–; botanist, Ind. Exp. Sta, 88–* Int. Cong. Arts and Science, St. Louis, 04 (speaker). F.A.A. (sec'y, F, 86, asst. gen. sec'y, 87, v. pres, 95); Bot. Soc. (pres, 02); Mycol. Soc; Soc. Prom. Agr. Sci; Ind. Acad. (pres, 93); Iowa Acad; Phila. Acad; Int. Ass. Bot. Fungous diseases of cultivated crops; development of plant rusts.—The connection of aecidial and teleutosporic stages of heteroecismal Uredineae.

Ashe, W(illiam) Willard, Raleigh, N. C. *Forestry.* Raleigh, June 4, 72. A.B, North Carolina, 91; M.S, Cornell, 92. Special agent, U. S. Dept. Agr, 98–03; *in charge of forest investigations, N. C. Geol. Surv, 02–* M.A.A; Forestry Ass; N. C. Acad. Panicum; Crataegus; Hicoria; Asarum.—Growth of east American pines; east American species of Crataegus.

Ashley, Prof. Geo(rge) H(all), U. S. Geological Survey, Washington, D. C. *Geology.* Rochester, N. Y, Aug. 9, 66. M.E, Cornell, 89; A.M, Stanford, 92, Ph.D. 94. Paleontologist, Ward's Nat. Science Estab, Rochester, N. Y, 89–91; asst. geologist, Ark. Geol. Surv, 91–93; teacher, high schools, Stockton and San Bernardino, Cal, 94–96; asst. state geologist, Ind, 96–00; prof. biol. and geol, Col. of Charleston, 00–03; asst. geologist, *U. S. Geol. Surv,* 01–05, *geologist, 05–* Prof. pharmacog, Med. Col. of S. C, 01–03; mem. Juries of Awards, S. C, I and W. I. Expos, 02. F.A.A; Geol. Soc; Min. Eng; Social Sci. Ass; Wash. Geol. Soc; cor. mem. Ind. Acad; hon. mem. S. C. Pharmaceut. Ass; Elliott Soc. Stratigraphy of coal; physiographic results of earth movements.

Ashley, Harrison Everett, 154 Pennsylvania Ave, Station A, East Liverpool, O. *Chemistry, Ceramics.* New Bedford, Mass, Aug. 2, 76. B.S, Mass. Inst. Tech, 00; Ohio State, 05. Chemist, Tremont Nail Co, West Wareham, Mass, 00–02; Salem Iron Co, Leetonia, O, 02–03; *chem. engineer, Homer Laughlin China Co, 05–* Chem. engineer, New Bedford Product Co, 00; with Taylor and Baron, New Bedford, 03. Chem. Soc; Soc. Chem. Indust; Ceramic Soc. Alloys of antimony and tellurium; constitution of slag; logarithmic three-variable diagram for solution of gas-engine problems; iridescent stains on glass; holding of glazes.—Methods of testing materials and products of potteries; composition of sagger mixes; holding of glazes.

Ashmead, Dr. W(illia)m H(arris), 1807 Belmont Ave, Washington, D. C. **Entomology.* Philadelphia, Pa, Sept. 19, 55. Private and pub. schools; special study in Germany, 90. Prof. entom, Fla. Agr. Col, 87; *asst. curator, U. S. Nat. Mus, 97–* Scientific ed, 'Fla. Dispatch,' 82–86. Hon. A.M, Fla. Agr. Col, 01; Sc.D, Western Univ. of Pa, 03. F.A.A; Soc. Nat; Ass. Econ. Entom. (v. pres, 92); hon. cor. mem. Entom. Soc; Wash. Entom. Soc. (pres, 94–95); Cambridge Entom. Soc. (pres, 94); Wash. Acad. (v. pres, 98, 03); hon. cor. mem. Ont. Entom. Soc. Insects, principally the Hymenoptera and Rhynchota.—Classification of the order Hymenoptera.

Ashton, Prof. C(harles) H(amilton), 1202 Ohio St, Lawrence, Kas. *Mathematics.* Cambridge, N. Y, Aug. 12, 66. A.B, Union, 87, A.M, 90; A.M, Harvard, 93. Teacher, private sch, 87–89; prof. *math,* State Nor. Sch, Mansfield, Pa, 89–92; instr, Harvard, 94–03; *asst. prof, Kansas, 03–* M.A.A; Math. Soc.

Atkinson, Dr. Elizabeth A(llen), 4106 Locust St, Philadelphia, Pa. *Chemistry, Geology.* Wil-

mington, Del, Oct. 7, 68. Certificate in chem, Pennsylvania, 95, Ph.D, 98. Asst. demonstrator chem, Woman's Med. Col. of Pa, 99–02; *treas, Phila. Clin. Lab, 01–* Chem. Soc. Metal separation by means of hydrobromic acid gas; indium in tungsten minerals.

Atkinson, Prof. Geo(rge) F(rancis), Cornell University, Ithaca, N. Y. **Botany.* Monroe, Mich, Jan. 26, 54. Olivet, 80–84; Ph.B, Cornell, 85. Asst. prof. entom. and gen. zool, North Carolina, 85–86, assoc. prof, 86–88; prof. bot. and zool, South Carolina, and botanist, Exp. Sta, 88–89; prof. biol, Ala. Polytech, and biologist, Exp. Sta, 89–92; asst. prof. crypt. bot, *Cornell, 92–93,* assoc. prof, 93–96, *prof. bot, head, Bot. Dept, and botanist, Exp. Sta, 96–* Ed, 'Bot. Gazette,' 96–98. F.A.A. (sec'y, G, 96, v. pres, 97); Soc. Nat; Bot. Soc. (sec'y, 89–01); Soc. Plant Morph. and Physiol; Mycol. Soc; Soc. Prom. Agr. Sci; cor. mem. Torrey Bot. Club; Wash. Acad. Lemnaceae of the United States; Cercosporae and Erysipheae of Alabama; Heterodera; trap-door spiders; Hypocreaceae; fungi of cotton; edema of tomato; prunicolous Exoasceae; diseases of plants; mushrooms; etc.—Morphology and taxonomy of fungi; cultures and development of fungi.

Atwater, Prof. W(ilbur) O(lin), 226 Washington St, Middletown, Conn. **Physiological chemistry.* Johnsburg, N. Y, May 3, 44. A.B, Wesleyan, 65; Ph.D, Yale, 69; Leipzig and Berlin, 69–71. *Prof. chem,* Tennessee, 71–73; Maine State, 73; *Wesleyan, 73–* First director, Conn. Agr. Exp. Sta, 75–77, mem. Board of Control, 75–05; director, Storrs Agr. Exp. Sta, 88–02; founder and director, Office of Exp. Stations, U. S. Dept. Agr, 88–91, special agent, 92–, in charge nutrition investigations, 94–, chief, 03– Elliott Cresson gold medal, Franklin Inst; gold medal, Paris Expos, 00, and others; LL.D, Vermont, 04. F.A.A. (sec'y, C, 95); Chem. Soc; Physiol. Soc; Wash. Acad; Chem. Gesell; Soc. chim. de Paris; cor. mem. Soc. royale des Sci. méd. et nat; assoc. mem. Soc. d'Hygiène; for. mem. Swedish Royal Acad. of Agr; cor. mem. Russian Imperial Mil. Acad. of Med. Agricultural and physiological chemistry; dietary studies; metabolism.—Investigations with the respiration calorimeter.

Atwell, Prof. C(harles) B(each), 1938 Sherman Ave, Evanston, Ills. *Botany.* Theresa, N. Y, April 11, 55. Ph.B, Syracuse, 79, Ph.M, 82; Harvard, 87; Freiburg, 91. Asst. principal, Acad, Lowville, N. Y, 79–80; instr, Acad. Dept, Northwestern, 80–82; principal pub. schools, South Evanston, Ills, 82–84; instr, Acad. Dept, Northwestern, 84–87, *Northwestern,* 87–91, *prof.* biol, 91–94, *bot, 94–* Registrar, Col. Dept, Northwestern, 90–92. F.A.A; Soc. Nat; Bot. Cent. States; Chicago Acad; Evanston Hist. Soc. Algae; chlorophyll.—Algae of Cook County, Illinois; development of Lathyrus maritimus.

Atwood, Dr. Wallace W(alter), 5453 Monroe Ave, Chicago, Ills. *Geology.* Chicago, Oct. 1, 72. B.S, Chicago, 97, Ph.D, 03. Instr. physiog, Lewis Inst, Chicago, 97–99; geol, Chicago Inst, 99–00, director, 00; asst. physiog, *Chicago,* 01–02, assoc, 02–03, *instr. physiog. and gen. geol, 03–* Asst. geologist, U. S. Geol. Surv, 01–; Ills. Geol. Surv, 05– Geog. Ass; Chicago Geog. Soc. Glaciation; ancient glaciers among the Rocky Mountains.

Aubert, Prof. A(lfred) B(ellamy), Orono, Me. *Chemistry.* New York, N. Y, April 29, 53. B.S, Cornell, 73; M.S, Maine. *Prof. chem, Maine, 74–* Chem. Soc. Double salts of pyridin picolin; diatoms of Maine.—Picolin compounds.

Auchincloss, William S(tuart), Atlantic Highlands, N. J. *Mechanical and civil engineering.* New York, N. Y, March 19, 42. C.E, Rensselaer, 62. Civil engineer, A. and G. W. R. R, 64; U. S. commissioner, Paris Expos, 67; ship builder and car manufacturer, 69–79; commission merchant, 79–95. F.A.A; Civil Eng; Mech. Eng; Phila. Eng. Club; Inst. Braziliera; British Ass. Inventor of improvements in war-vessel casemates; indicators for passenger elevators; axle-boxes and trucks for railroad cars; thread spoolers; averaging instruments for calculating accounts.

Auchy, George, 6948 Hegerman St, Tacony, Philadelphia, Pa. *Chemistry.* Pottstown, Pa, April 23, 62. Lafayette, 78–82. *Chemist,* Durham Iron Works, 82–86; Nashua Iron and Steel Co, 94–97; *Keystone Saw Works, 97–* Chem. Soc; Franklin Inst. Methods of chemical analysis of iron and steel.

Auer, Dr. John, 107 W. 122d St, New York, N. Y. *Physiology, Pharmacology.* Rochester, N. Y, March 30, 75. B.S, Michigan, 98; M.D, Hopkins, 02. *Fellow, Rockefeller Inst. for Med. Research, 03–* House officer, Hopkins Hosp, 02–03. Soc. Exp. Biol. and Med. Intramuscular absorption; effect of suprarenal extract on absorption and transudation.—Physiology and pharmacology of magnesium salts.

Austen, Dr. Peter T(ownsend), 89 Pine St, New York, N. Y. **Chemistry.* Clifton, Staten Isl, N. Y, Sept. 10, 52. Ph.B, Columbia, 72; Berlin, 73–76; Ph.D, Zürich, 76. Instr. chem, Dartmouth, 76–77; prof, Rutgers and N. J. State Science Sch, 78–91; Brooklyn Polytech, 92–96; *chemical expert, 96–* F.A.A; Chem. Soc; foreign chem. societies. Experimental investigation and manufacturing processes.

Austin, Prof. Louis W(inslow), Bureau of Standards, Washington, D. C. **Physics.* Orwell, Vt, Oct. 30, 67. A.B, Middlebury, 89; Strasburg, 89–90; fellow, Clark, 90–91; Ph.D, Strasburg, 93. Instr. and later asst. prof. physics, Wisconsin, 93–01; on staff, Physik.-Tech. Reichanstalt, Charlottenburg, 02–04; *Bur. Standards, 04–* Physical Soc; Astron. and Astrophys. Soc; Wash. Philos. Soc; Physik. Gesell. Physical measurements; elasticity in metals; magnetostriction discharge of electricity through gases; specific heat of gases at high temperatures.

Austin, O(scar) P(helps), 1620 Massachusetts Ave, Washington, D. C. *Economics.* Newark, Ills,

July 27, 47. Pub. and acad. schools. Ed, 'Wash. Correspondent,' 74–98; *chief, Bur. Statist,* U. S. Treas. Dept, 98–02; *U. S. Dept. Commerce and Labor, 02–* Assoc. ed, 'Nat. Geog. Magazine.' F.A.A; Econ. Ass; Acad. Polit. and Social Sci; Geog. Ass; Nat. Geog. Soc; Int. Verein. vergleichende Rechtswissenschaft. Production; commerce; transportation; colonial development and government.

Avery, Dr. Elroy M(cKendree), 657 Woodland Hills Ave, Cleveland, O. *Physics, Chemistry.* Erie, Mich, July 14, 44. Ph.B, Michigan, 71, Ph.M, 74; Ph.D, Hillsdale, 82. Principal, East High Sch. and City Nor. Sch, Cleveland, O, 71–79; mem. Ohio Senate, 92–96. LL.D, Hillsdale, 94. F.A.A. (sec'y, B, 90); Econ. Ass; Am. Hist. Ass; Ohio Archeol. and Hist. Soc.

Avery, Prof. S(amuel), 2745 Q St, Lincoln, Nebr. *Chemistry.* Bureau Co, Ills, April 19, 65. A.B, Doane, 87; B.S, Nebraska, 92, A.M, 94; Ph.D, Heidelberg, 96. Instr. chem, Nebraska, 95–97, adj. prof, 97–99; *prof,* Idaho, 99–01; agr. chem, *Nebraska,* 02–05, *chem. and director, Chem. Lab, 05–* Chem. Soc; Chem. Gesell. Aromatic glutaric acids; determination of arsenic and iron; prussic acid in sorghum; destroying prairie dogs.

Ayers, Dr. Howard, 299 Southern Ave, Cincinnati, O. **Biology.* Olympia, Wash, May 21, 61. B.S, Harvard, 83; Heidelberg; Strasburg; Ph.D, Freiburg, 86. Instr. zool, Michigan, 86–87; Harvard and Radcliffe, 87–88; Woods Hole, 89–98; director, Lake Lab, Milwaukee, 89–94; prof. biol, Missouri, 94–99; pres, Cincinnati, 99–04. LL.D, Missouri, 99. F.A.A; Soc. Nat; Soc. Zool; Nat. Educ. Ass; cor. mem. Phila. Acad. Vertebrate morphology; anthropology; morphology and physiology of the vertebrate ear; vertebrate cephalogenesis.

Ayres, Pres. Brown, University of Tennessee, Knoxville, Tenn. **Physics, Astronomy.* Memphis, Tenn, May 25, 56. Washington and Lee, 71–74; B.S, Stevens, 78; fellow, Hopkins, 79–80; Ph.D, Stevens, 88. Prof. physics, Louisiana, 80–84; Tulane, 84–04, dean, Col. Tech, 94–00, v. chairman, Faculty, and dean, Academic Colleges, 00–04; *pres, Tennessee, 04–* Mem. Jury of Awards, Columbian Expos, 93; Cotton Expos, Atlanta, 95; Tenn. Centennial Expos, Nashville, 97. LL.D, Washington and Lee, 04; South Carolina and Tulane, 05. F.A.A. (sec'y, B, 92); Physical Soc; Elec. Eng; Eng. Educ; New Orleans Acad.

Ayres, Dr. C(harles) H(amilton), Jr, 135 Grand St, Rahway, N. J. *Physics.* Spotswood, N. J, Oct. 10, 74. A.B, Harvard, 98, A.M, 99, Ph.D, 01, LL.B, 05. Asst. physics, Harvard, 98–01, instr, 01–05. Physical Soc. Internal resistance of galvanic cells; heat conduction in metals.—Polarization of cells; measurement of liquid capacity.

Ayres, H(orace) B(eemer), Allamuchy, N. J. *Forestry.* Allamuchy, Sept. 20, 56. B.S, Lafayette, 78. Timber inspector and geologist, Eng. Dept, N. P. R. R. Co; Minn. and Pacific R. R; Northern Transcont. Surv; Adirondack Forest Surv; Land Departments, St. P. and D. R. R. Co. and N. P. R. R. Co; field asst, U. S. Geol. Surv; forest expert, Bur. of Forestry, U. S. Dept. Agr; *supt, Kimberley Explor. Co.* M.A.A; Forestry Ass. Southern Appalachian forestry.—Conditions favoring growth of valuable timber.

B

Babb, Cyrus C(ates), U. S. Geological Survey, Washington, D. C. *Hydraulic engineering.* Portland, Me, June 18, 67. B.S, Mass. Inst. Tech, 90. *Engineer, U. S. Geol. Surv, 90–* Civil Eng; Forestry Ass; Nat. Geog. Soc. (sec'y, 94–95). Hydraulic engineering.

Babcock, Prof. E(arle) J(ay), University of North Dakota, Grand Forks, N. Dak. *Chemistry, Metallurgy.* St. Charles, Minn, June 11, 65. Carleton; B.S, Minnesota, 89. Instr. chem, *North Dakota,* 89-91, *prof.* chem. and geol, 91–02, *chem. and metal. and dean, Col. Mining Eng, 98–*; state geologist, N. Dak, 97–02. Metallurgical chemistry; fire clays; lignite coal; cement; building stone.

Babcock, Dr. S(tephen) M(oulton), 432 Lake St, Madison, Wis. **Agricultural chemistry.* Babcock Hill, N. Y, Oct. 22, 43. A.B, Tufts, 66; Ph.D, Göttingen, 79. Instr. chem, Cornell, 75–77, 81–82; chemist, Agr. Exp. Sta, Geneva, N. Y, 82–88; *prof. agr. chem, Wisconsin, and chemist, Agr. Exp. Sta, 88–* Mem. Jury of Awards, Pan-Am. Expos, 01. Bronze medal, Wis. Legislature, 99; grand prize, Paris Expos, 00; LL.D, Tufts, 01. F.A.A. (sec'y, C, 94). Agricultural chemistry, chiefly along dairy lines.—Influence of low temperatures upon the curing of cheese; the conservation of gravity during molecular changes.

Baber, Miss Zonia, 5623 Madison Ave, Chicago, Ills. *Geography.* Kansas, Ills, Aug. 24, 62. B.S, Chicago. Principal, Ward Sch, Youngstown, O, 86–88; critic teacher, Cook Co. Nor. Sch, 88–90, *head, Dept. Geog,* 90–99; *Sch. of Educ, Chicago, 01–* Principal, Element. Sch, Sch. of Educ, Chicago, 02–03. Nat. Geog. Soc; Soc. Sci. Educ; Chicago Geog. Soc. (pres.). Geography in education.

Bacon, Prof. Arthur A(very), 496 Main St, Geneva, N. Y. *Physics.* Laconia, N. H, Oct. 26, 75. A.B, Dartmouth, 97, A.M, 01. Tutor physics, Oberlin, 97–98; asst, Dartmouth, 98–00, instr. math. and astron, 00–01; *prof. physics, Hobart, 03–* M.A.A; Physical Soc. Equilibrium of vapors at curved surfaces of liquids.

Baekeland, Dr. Leo Hendrik, Yonkers-on-Hudson, N. Y. *Chemistry.* Ghent, Belgium, Nov. 14, 63. Sc.D, Ghent, 84. Asst. prof. chem, Ghent, 85–88, assoc. prof, 88–89; prof. chem. and physics, Higher Nor. Sch, Bruges, 86–88; *mfg. and consulting chemist, 89–* Laureate of chem. science of the four Belgian universities, 87. Chem. Soc; Soc. Chem. Indust. (v. pres, 05); Electrochem. Soc; N. Y. Chemists' Club

(pres, 04); Chem. Gesell; Chem. Verein. Oxidation of hydrochloric acid under the influence of light; separation of copper and cadmium; dissociation of nitrate of lead; photographic chemistry; invented the water developing dry plate, velox gas-light papers, etc.

Bagby, Dr. J(ohn) H(ampden) C(hamberlayne), Hampden-Sidney, Va. *Physics.* Middleburg, Va, July 20, 67. A.M, Virginia, 88, M.E, 91, Ph.D, 95. *Prof. physics, Hampden-Sidney, 92–* M.A.A. X-rays; Hertzian waves; vortex rings.

Bagg, Dr. Rufus M(ather), Jr, West Springfield, Mass. *Geology.* West Springfield, April 19, 69. A.B, Amherst, 91; Ph.D, Hopkins, 95. Principal, High Sch, Lubec, Me, 91–92; asst. geol, Hopkins, 95–97; asst, N. Y. State Mus, 97; prof. geol. and miner, Colo. Col, 98–99; instr. science, High Sch, Colo. Springs, 99–00; sub-master, High Sch, Brockton, 01–03; prof. miner. and petrog, N. Mex. Sch. of Mines, 03–04; *mining engineer and geologist, 04–* Instr. science, Worcester Summer Sch. for Boys, 91, 92; mem. Md. Geol. Surv, 96–98. Diploma and bronze medal, Paris Expos, 00. F.A.A; Geol. Soc; Nat. Geog. Soc; Wash. Geol. Soc. Foraminifera.—Tertiary Foraminifera.

Bagley, Prof. W(illiam) C(handler), Dillon, Mont. *Psychology.* Detroit, Mich, March 15, 74. B.S, Mich. Agr. Col, 95; M.S, Wisconsin, 98; Ph.D, Cornell, 00. Teacher, Mich. pub. schools, 95–97; asst. psychol, Cornell, 00–01; principal pub. schools, St. Louis, 01–02; *v. pres. and director of training, Mont. State Nor. Col, 02–* Asst. to state entomologist, Ills, 02. Nat. Educ. Ass; West. Philos. Ass. Apperception of the spoken sentence; correlation of mental and motor ability in school children.—Apperception of words and sentences; factors of the educative process.

Bagley, Mrs. W. C. (Florence Winger), Dillon, Mont. *Psychology.* Clay Lick, Pa, Jan. 7, 74. A.B, Nebraska, 95, A.M, 98; Cornell, 98–01. Asst. psychol, Nebraska, 96–98. Asst. psychol, Summer Sch, Cornell, 00. West Philos. Ass. Esthetics of color; Fechner's color rings.

Bailey, Prof. E(dgar) H(enry) S(ummerfield), 1329 Ohio St, Lawrence, Kas. **Chemistry.* Middlefield, Conn, Sept. 17, 48. Ph.B, Yale, 73; Strasburg, 81; Ph.D, Ills. Wesleyan, 83; Leipzig, 95. Instr. *chem,* Yale, 73–74; Lehigh, 74–83; *prof, Kansas, 83–, director, Chem. Lab, 00–* Chemist, Kas. State Board of Health and State Board of Agr; lecturer, Kansas City Univ. Med. Col. F.A.A; Chem. Soc. (chairman, Kansas City Sect.); hon. mem. Am. Inst. Homeop; Kas. Acad. (past pres. and sec'y). Delicacy of special senses; mineral and potable waters; mineral resources of Kansas; toxicology; applications of the ion theory.—The action of preservatives.

Bailey, Prof. Frederick H(arold), Massachusetts Institute of Technology, Boston, Mass. *Mathematics.* Leominster, Mass, April 24, 65. A.B, Harvard, 87, A.M, 89. Asst. *math,* Harvard, 89–91; *Mass. Inst. Tech,* 91–93, asst. prof, 93–04, *assoc. prof, 04–* Instr. math, Radcliffe, 90–91; Simmons, 02–03. Math. Soc. Analytic geometry.

Bailey, Dr. Frederick R(andolph), 1165 E. Jersey St, Elizabeth, N. J. *Histology, Pathology.* Elizabeth, Oct. 26, 71. A.B, Princeton, 92, A.M, 95; M.D, Columbia, 95. *Adj. prof. nor. histol, Columbia, 95–* Pathologist and attending physician, Gen. Hosp, Elizabeth, N. J, 96–Ass. Path. and Bact; N. Y. Path. Soc; N. Y. Acad. Med. Normal histology.

Bailey, Dr. J(ames) R(obinson), Cor. Colorado and 19th Sts, Austin, Tex. *Chemistry.* Houston, Tex, Dec. 11, 68. A.B, Texas, 91; Ph.D, Munich, 97; Leipzig, 00–01. Student asst. *chem, Texas,* 91, tutor, 91–94, instr, 96–00, *adj. prof, 01–* Tex. Acad; Chem. Gesell. Semicarbazid acids; hydrazin acids; hydrazo-acids; hydantoins.—Action of mustard oils on hydrazo-compounds.

Bailey, Prof. L(iberty) H(yde), Ithaca, N. Y. **Agriculture.* South Haven, Mich, March 15, 58. B.S, Mich. Agr. Col, 82, M.S, 85. Prof. hort. and landscape gardening, Mich. Agr. Col, 84–88; hort, *Cornell,* 88–03, *director, Col. of Agr, 03–* Veitchian medal, 98. Soc. Plant Morph. and Physiol; Soc. Hort. Sci; Philos. Soc; Am. Acad. Plant breeding; evolution in relation to plants; scientific aspects of horticultural practise; education; nature-study.

Bailey, Prof. L(oring) W(oart), Fredericton, N. B, Can. *Biology, Geology.* West Point, N. Y, Sept. 28, 39. A.B, Harvard, 59, A.M, 61; Ph.D, New Brunswick, 73. *Prof.* chem. and nat. science, *New Brunswick,* 61–01, *biol. and geol, 01–* LL.D, Dalhousie, 96. Patron Boston Soc. Nat. Hist; New Eng. Bot. Club; fel. Can. Royal Soc; N. S. Inst; Nat. Hist. Societies of St. John, Fredericton, Quebec and Montreal. Botany; geology.—Geology of New Brunswick.

Bailey, Prof. S(olon) I(rving), Harvard Observatory, Cambridge, Mass. **Astronomy.* Lisbon, N. H, Dec. 29, 54. A.B, Boston, 81; A.M, Harvard, 87. Asst. prof. *astron, Harvard,* 93–98, *assoc. prof, 98–, in charge of Arequipa branch of Harvard Col. Observatory, 92–* F.A.A; Astron. and Astrophys. Soc; Am. Acad; Lima (Peru) Geog. Soc. Astronomy and meteorology.—Variable stars in clusters.

Bailey, Prof. Thomas P(earce), Mississippi University, Miss. *Pedagogy, Psychology.* Georgetown, S. C, Aug. 18, 67. A.B, South Carolina, 87, A.M, 89, Ph.D, 91; fellow, Clark, 92–93. Adj. prof. biol, South Carolina, 91–92; asst. prof. educ, California, 94–98, assoc. prof. educ. as related to character, 98–00; asst. prof. educ, Chicago, 00–03; *prof. psychol. and applied psychol, Mississippi, 03–* Lecturer, various colleges and summer schools. Nat. Educ. Ass. (pres, Child-study Dept, 01). Psychology of character and its application to education.—Id; development of character; negro character and the negro problem.

Bailey, Vernon, 1834 Kalorama Ave, Washington, D. C. *Biology.* Manchester, Mich, June 21, 64. Michigan, 93; Columbian, 94, 95. *Chief field naturalist, Biol. Surv, U. S. Dept. Agr, 87–* F.A.A; mem. Ornith. Union; Forestry Ass; Nat. Geog. Soc; Wash. Acad; Wash. Biol. Soc; Cooper Ornith. Club. Distribution of mammals, birds, plants, etc.

Bailey, Dr. W(illa)m Whitman, 6 Cushing St, Providence, R. I. *Botany.* West Point, N. Y, Feb. 22, 43. Ph.B, Brown, 72. Botanist, U. S. Surv. of 40th Parallel, 67; instr. *bot, Brown, 77–81, prof, 81–* Chemist, Manchester Print Works, N. H; asst. chem, Mass. Inst. Tech, 66; librarian, Providence Atheneum, 61–71; sec'y, Board of Visitors, U. S. Mil. Acad, 96. Hon. A.M, Brown, 93; LL.D, New Brunswick, 00. New Eng. Bot. Club; R. I. Hort. Soc; Boston Soc. Nat. Hist; Newport Nat. Hist. Soc. Pollination; teratology.

Bain, Dr. H(arry) Foster, State Geological Survey, Champaign, Ills. **Geology, Mining.* Seymour, Ind, Nov. 2, 71. B.S, Moores Hill, 90; Hopkins, 91–93; Ph.D, Chicago, 97. Asst. state geologist, Ia, 93–00; special asst, U. S. Geol. Surv, 00–01; manager, Cons. Franklin Mines Co, 01–02; *geologist, U. S. Geol. Surv, 02–; state geologist, Ills, 05–* Lecturer econ. geol, Iowa, 98; Chicago, 99, 02, 03. Geol. Soc; Min. Eng; Iowa Acad; N. of England Inst. Min. and Mech. Eng. Structural geology; ore deposits; mining methods.—Lead and zinc deposits.

Bain, Prof. Samuel M(cCutchen), University of Tennessee, Knoxville, Tenn. *Botany.* Eagleville, Tenn, Jan. 14, 69. A.B, Eagleville Sch, 89. Instr. nat. science, Eagleville Sch, 88–90; asst. prof, Southwestern Baptist Univ, Jackson, Tenn, 90–93; instr. *bot, Tennessee,* 93–99, asst. prof, 99–01, *prof, 01–* Asst, Div. Veg. Physiol. and Path, U. S. Dept. Agr, 94, special agent, cotton boll weevil investigations, 04– F.A.A; Bot. Cent. States; Am. Geog. Soc; Int. Ass. Bot; Acad. Int. Géog. Bot. Flora of Tennessee; physiological action of copper on leaves; permeability of plant cuticle; translocation of starch.—Physiological function of root-hairs; plant breeding; diseases of clover.

Bair, Dr. J(oseph) H(ershey), University of Colorado, Boulder, Colo. *Psychology, Anthropology.* Hall, Pa, June 21, 75. B.E, Central State Nor. Sch, Pa, 95, M.E, 97; Ph.B, Grove City, 99; Ph.B, Michigan, 00, A.M, 01; Ph.D, Columbia, 03. Asst. anthrop, Columbia, 02–03; Carnegie research asst, 03–04; *prof. psychol. and educ, Colorado, 04–* F.A.A; Psychol. Ass; Colo. Sci. Soc. Voluntary control and the formation of habits.—Correlation of repeated physical tests of children; factors in man's progress.

Baird, Dr. J(ohn) W(allace), Johns Hopkins University, Baltimore, Md. *Psychology.* St. Mary's, Ont, May 21, 73. A.B, Toronto, 97; Leipzig, 98; fellow, Wisconsin, 99–01; Cornell, 01–02, Ph.D, 02. Asst. psychol, Cornell, 02–03; Carnegie research asst, 03–04; *asst. psychol, Hopkins, 04–* F.A.A; Psychol. Ass; S. Soc. Philos. and Psychol. Color-blindness; color contrast; perception of depth; the color sensitivity of the peripheral vision.

Baker, Prof. Alfred, 81 Madison Ave, Toronto, Can. *Mathematics.* Toronto, Can. A.B, Toronto, 69, A.M, 78. Principal, high schools, Vienna, Perth and Oshawa, 69–72; master *math,* Upper Canada, 72–75; lecturer, *Toronto, 75–87, prof, 87–* Math. Soc; fel. Can. Royal Soc; Soc. math. de France. Mechanics; trigonometry; quaternions; geometry of position; analytic and synthetic geometry.

Baker, Dr. A(rthur) L(atham), Manual Training High School, Brooklyn, N. Y. *Mathematics.* Cincinnati, O, May 7, 53. C.E, Rensselaer, 73; Ph.D, Lafayette, 89. Adj. prof. civil eng, Lafayette, 73–80; principal, High Sch, Scranton, Pa, 82; prof. math, Stevens High Sch, Hoboken, N. J, 89–91; Rochester, 91–01; *head, Math. Dept, Manual Training High Sch, Brooklyn, N. Y, 01–* Math. Soc; Rochester Acad. (sec'y, 92–00). Mathematics; mathematical pedagogy.

Baker, Prof. C(harles) F(uller), Estacion Agronómica, Santiago de las Vegas, Cuba. *Botany, Zoology.* Lansing, Mich, March 22, 72. B.S, Mich. Agr. Col, 92; A.M, Stanford, 03. Asst. zoologist, Mich. Agr. Col, 91–92; asst. to zoologist and entomologist, Colo. Agr. Col, 92–97; zoologist, Ala. Polytech, and entomologist, Exp. Sta, 97–99; teacher biol, High Sch, St. Louis, 99–01; asst. prof. biol, Pomona, 03–04; *chief, Dept. Bot, Estacion Central Agron. de Cuba, 04–* Zoologist and assoc. botanist, Ala. Biol. Surv; in charge, Colo. Forestry and Zool. Exhibit, Columbian Expos, 93; botanist, H. H. Smith Exploring Exped. in Santa Marta Mts, Colombia, 98–99. M.A.A; S. Cal. Acad; Wash. Entom. Soc; St. Louis Acad. Geographic distribution of plants and animals of Pacific slope of the Americas; taxonomy of special groups of plants and invertebrates; American Siphonoptera; flora of Nicaragua and Cuba; Homoptera.

Baker, Charles Whiting, Fern Hill, Montclair, N. J. *Engineering, Economics.* Johnson, Vt, Jan. 17, 65. C.E, Vermont, 86. Assoc. ed, *'Eng. News,'* 87–95, *managing ed. and sec'y, Eng. News Pub. Co, 95–* Aid, U. S. Coast and Geod. Surv, 84; draftsman, Baldwin Locomotive Works, 86–87. Mech. Eng; Econ. Ass. Economics.

Baker, Dr. Frank, 1728 Columbia Road, Washington, D. C. *Zoology, Anatomy.* Pulaski, N. Y, Aug. 22, 41, M.D, Columbian, 80; A.M, Georgetown, 88, Ph.D, 90. *Prof. anat, Georgetown, 83–; supt, Nat. Zool. Park, 90–* Sergeant, 37th N. Y. Vols, 61–63; asst. supt, U. S. Life Saving Service, 89–90; ed, 'Am. Anthropologist,' 91–98. F.A.A. (sec'y, H, 88, v. pres, 90); Soc. Nat; Ass. Anat. (pres, 97); Nat. Geog. Soc; Phila. Zool. Soc; Wash. Acad. (sec'y, 90–); Wash. Biol. Soc; Wash. Anthrop. Soc. Human anatomy; zoology.

Baker, F(rank) C(ollins), 1738 York Place, Chicago, Ills. *Zoology, Museum administration.* Warren, R. I, Dec. 14, 67. Brown, 88–89. Jesup scholar, Acad. Nat. Sciences, Phila, 89–90; in charge, Invert. Dept, Ward's Nat. Sci. Establishment, Rochester, 91–92; curator zool, Field Columbian Mus, 94; *curator, Chicago Acad. Sciences, 94–* Mus. Ass; Nat. Cent. States; Ills. Audubon Soc. (v. pres, 96–); Chicago Acad. (sec'y, 94–96); fel. Rochester Acad. (sec'y, 91–92). General Mollusca; fresh-water Mollusca; museum administration; molluscan protoconch; biometrics.—Lymnaeidae; museum administration; molluscan biometrics.

Baker, Prof. Ira O(sborn), 702 W. University Ave, Champaign, Ills. *Civil engineering.* Linton, Ind, Sept. 23, 53. B.S, Illinois, 74, C.E, 77. *Prof. civil eng, Illinois, 80–* Hon. D.Eng, Illinois, 03. Civil Eng; Eng. Educ; West. Soc. Eng. Masonry; roads and pavements.

Baker, Dr. James Hutchins, Boulder, Colo. *Psychology.* Harmony, Me, Oct. 13, 48. A.B, Bates, 73, A.M, 76. Principal, High Sch, Denver, 75–92; *pres, Colorado, 92–* LL.D, Bates, 92. F.A.A; Colo. Sci. Soc. Psychology; sociology; education.

Baker, Dr. Smith, 296 Rutger St, Utica, N. Y. *Neurology, Psychology.* Marcy, N. Y, Sept. 25, 50. M.D, Michigan, 71. *Practising physician, 71–* Lecturer preservation of health, Colgate, 84, 92–93. Hon. A.M, Colgate, 84. Fel. Neur. Ass; N. Y. State Med. Soc; Oneida Med. Soc. (pres, 86). Normal and abnormal psychology. —Mental state of hysterics; the morbid imperative.

Bakewell, Prof. Charles M(ontague), Yale University, New Haven, Conn. *Philosophy.* Allegheny, Pa, April 24, 67. A.B, California, 89, A.M, 91; Ph.D, Harvard, 94, Walker and John Harvard fellow (Berlin, Strasburg and Paris), 94–96. Instr. philos, Harvard, 96–97; California, 97–98; assoc. prof, Bryn Mawr, 98–00; California, 00–04, *prof.* hist. of philos, 04–05; *philos, Yale, 05–* Hon. A.M, Yale, 05. M.A.A; Psychol. Ass; Social Sci. Ass. History of French philosophy in the eighteenth and nineteenth centuries; the history of the categories.

Balch, Dr. Alfred W(illiam), Navy Department, Washington, D. C. *Chemistry, Medicine.* East Saginaw, Mich, Aug. 27, 73. Ph.G, Mass. Col. Pharmacy, 94; M.D, Harvard, 98. Instr. org. and anal. chem, Mass. Col. Pharmacy, 94, asst. prof, 98; asst. pharmacol, Harvard Med. Sch, 98; asst. surgeon, *U. S. N,* 01–04, *past asst. surgeon, 04–* M.A.A; Ass. Path. and Bact; Am. Med. Ass; Ass. Mil. Surg; Chem. Soc; Boston Soc. Med. Sci. Azoturia; pharmacological action of corn smut; action of drugs on the flow of bile.

Balch, Edwin Swift, 1412 Spruce St, Philadelphia, Pa. *Geography, Geology, Ethnology.* Philadelphia, 56. A.B, Harvard, 78; mem. Phila. Bar, 82– F.A.A; Philos. Soc; Franklin Inst. (mem. of Board); Nat. Geog. Soc; Am. Geog. Soc; Phila. Geog. Club (pres, 95–96); Appalachian Mt. Club; cor. mem. Wyoming (Pa.) Hist. and Geol. Ass; cor. mem. Soc. Cient. Ant. Alz; fel. Royal Geog. Soc. Mountains; caves; geographical discoveries; prehistoric man.

Balch, Francis N(oyes), Prince St, Jamaica Plain, Mass. *Biology.* Boston, Mass, Nov. 23, 73. A.B, Harvard, 96, A.M, 97, LL.B, 00; Woods Hole, 96; U. S. Fish Commission, 97; Cold Spring Harbor, 98, 99. M.A.A; Folk-lore Soc; Boston Soc. Nat. Hist; Nuttall Ornith. Club. Mollusca (distribution, morphology, variation, taxonomy); heredity.—Variation in Arca transversa Say (statistical method); chromatophores of cephalopods.

Baldwin, Dr. Edward R, Saranac Lake, N. Y. *Medicine.* Bethel, Conn, Sept. 8, 64. M.D, Yale, 90. Lab. asst, Med. Dept, Yale, 89–90; interne, Hartford Hosp, 90–92; *asst, Saranac Lab, 94–* Ass. Path. and Bact; Am. Med. Ass; Nat. Ass. for Study and Prevent. of Tuberculosis; Climat. Ass. Tuberculosis.—Id, especially immunity and infection; tuberculin.

Baldwin, Dr. Fred(eric)k A(mos), St. Louis, Mo. *Pathology.* Kalamazoo, Mich, May 14, 77. M.D, Michigan, 98, A.B, 02. Asst. histol, Michigan, 96–97, path, 98–04; *asst. city bacteriologist and pathologist, St. Louis, 04–* Ass. Path. and Bact; Am. Med. Ass; Mich. Med. Soc; Washtenaw Co. (Mich.) Med. Soc. Yellow elastic and reticulum tissues in tumors of the skin; some unusual localizations of tuberculosis; carcinoma of the pancreas; inflammations of mucous membranes; pituitary gland; multiple anemic infarcts of the liver.—Changes in bone marrow produced by splenectomy and hemolytic agents; hemolymphotoxic intoxication.

Baldwin, Prof. J(ames) Mark, Johns Hopkins University, Baltimore, Md. **Psychology, Philosophy, Biology.* Columbia, S. C, Jan. 12, 61. A.B, Princeton, 84; Leipzig and Berlin, 84–85; A.M, Princeton, 87, Ph.D, 89. Instr. modern languages, Princeton, 86; *prof.* philos, Lake Forest, 87–90; Toronto, 90–93; psychol, Princeton, 93–03; *philos. and psychol, Hopkins, 03–* Mem. Jury of Awards, Columbian Expos, 93; co-editor, 'Johnson's Cyclopedia,' 93; 'Psychol. Rev,' 94– Gold medal, Denmark Royal Acad, 97; hon. Sc.D, Oxford, 99; LL.D, Glasgow, 00; South Carolina, 05. Int. Cong. Psychol, London, 92 (v. pres.); Int. Cong. Criminal Anthrop, Geneva, 96 (hon. pres.); Int. Inst. Sociol, 98. F.A.A; Soc. Nat; Psychol. Ass. (pres, 97); Philos. Ass; Philos. Soc; S. Soc. Philos. and Psychol. (pres, 04–); London Aristot. Soc. Memory; reaction-time; child psychology; social psychology; theory of evolution.—Types of memory; types of reaction; optical illusions; psychology of the logical processes; philosophy.

Baldwin, S(amuel) Prentiss, 2930 Prospect Ave, Cleveland, O. *Geology, Geography, Natural history.* Cleveland, Oct. 26, 68. A.B, Dartmouth, 92, A.M, 95; LL.B, Western Reserve, 95. Practising lawyer, 94–99. F.A.A; Geol.

Soc; Nat. Geog. Soc. Geology of Lake Champlain; Muir Glacier, Alaska; Snake River, Idaho; Union County, New Mexico.—Geology of Union County, New Mexico; Front Range, Colo.

Baldwin, Judge Simeon E(ben), 44 Wall St, New Haven, Conn. *Law, History, Social science.* New Haven, Feb. 5, 40. A.B, Yale, 61, Law Sch, 61–62; Law Sch, Harvard, 62–63; A.M, Yale, 64. *Prof. constitutional and private int. law, Yale, 72–; assoc. judge, Supreme Court of Errors, 93–* Mem. of state commissions to revise educ. laws, 72, gen. statutes, 73–74, simplifying legal procedure, 78–79, taxation, 85–86. LL.D, Harvard, 91. Int. Cong. Pénitentiaire, Brussels, 00; Budapest, 05. F.A.A. (v. pres, 04); Ass. Am. Law Schools (pres, 02); Am. Bar Ass. (pres, 90); Antiq. Soc; Social Sci. Ass. (pres, 97–99); Nat. Inst. of Arts and Letters; Conn. Archeol. Soc. (pres, 99–01, 02–); New Haven Colony Hist. Soc. (pres, 84–96); cor. mem. Mass. Hist. Soc; cor. mem. Mass. Colonial Soc; London Int. Law. Ass. (pres, 99–01). Constitutional and international law; history; comparative law; social science; railroad law; penology; legal education.

Ball, Carleton R(oy), U. S. Department of Agriculture, Washington, D. C. *Botany.* Little Rock, Ia, June 12, 73. B.S, Iowa State, 96, M.S, 99. Asst. bot, Iowa State, 96–98, asst. botanist, Iowa Agr. Exp. Sta, 97–98; *asst. agrostologist, U. S. Dept. Agr, 99–* F.A.A; Ass. Plant and Animal Breeders; Bot. Cent. States; Iowa Acad; Wash. Bot. Soc; Wash. Biol. Soc. Economic botany (grasses and forage plants, lawns, etc.); taxonomy of grasses and willows.

Ball, Prof. E(lmer) D(arwin), State Agricultural College, Logan, Utah. *Entomology.* Athens, Vt, Sept. 21, 70. B.S, Iowa State, 95, M.S, 98; fellow, Ohio State, 00–01, candidate Ph.D. Asst. principal, Albion Sem, 93; principal schools, Carbonado, 94; asst. *zool. and entom,* Iowa State, 95–97; Colo. Agr. Col, 97–01, assoc. prof, 01–02; *prof, Utah State Agr. Col, 02–* F.A.A; Ass. Econ. Entom; Iowa Acad; Davenport Acad; Wash. Entom. Soc; Wash. Biol. Soc. Taxonomy and life-histories of Hemiptera-Homoptera; North American Cercopidae, Tetigonidae and Jassidae.—The Gyponinae of North America; Jassidae of Mexico and Central America.

Ball, Sydney H(obart), U. S. Geological Survey, Washington, D. C. *Geology.* Chicago, Ills, Dec. 11, 79. A.B, Wisconsin, 01. Asst. geologist, Mo. Bur. Mines and Geol, 01–02; asst. geol, Wisconsin, 03–04; geol. aid, *U. S. Geol. Surv,* 04–05, *asst. geologist, 05–* Wash. Geol. Soc. Geology of Miller County, Mo.—Reconnaissance in southwestern Nevada; areal geology of the Georgetown (Colo.) quadrangle.

Ballard, H(arlan) H(oge), 247 South St, Pittsfield, Mass. *Natural history.* Athens, O, May 26, 53. Olivet, 69–70; A.B, A.M, Williams, 74. Principal, High Sch, Lenox, Mass, 74–80; Lenox Acad, 80–86; *librarian, Berkshire Athenæum, Pittsfield, Mass, 88–* Dept. ed, 'St. Nicholas,' 80–86; ed, 'Swiss Cross,' 86–88; 'Popular Science News,' 88–92. Medal, Columbian Expos, 93. F.A.A; Agassiz Ass. (founder, 75, pres, 75–). Methods of interesting youth in natural science.

Bancroft, Dr. Frank W(atts), University of California, Berkeley, Cal. *Physiology, Zoology.* San Francisco, Cal, Oct. 18, 71. B.S, California, 94, M.S, 96; A.M, Harvard, 96, Ph.D, 98; Berlin, 98–99; Naples Zool. Sta, 99. *Instr. physiol, California, 00–* M.A.A; Soc. Zool. Anatomy, embryology and physiology of the tunicates; general physiology; morphogenesis. —The effect of soma on the germplasm by means of ovary grafting; statistical study of selective destruction in nature; Pflüger's law and galvanotropisms.

Bancroft, Prof. Wilder D(wight), 7 East Ave, Ithaca, N. Y. **Physical chemistry.* Middletown, R. I, Oct. 1, 67. A.B, Harvard, 88; Ph.D, Leipzig, 92. Asst. chem, Harvard, 88–89, 93–94, instr, 94–95; asst. prof. *physical chem, Cornell,* 95–03, *prof, 03–* Ed, 'Jour. of Physical Chem,' 96– F.A.A. (v. pres, 04); Chem. Soc; Physical Soc; Electrochem. Soc. (pres, 05); Wash. Acad; Bunsen Gesell. Phase rule; mass law; electrochemistry.—Study of alloys; conditions for electrolytic precipitation; irreversible reactions; chemistry of light; the van't Hoff-Raoult law.

Bandelier, Ad(olph) F(rancis) (Alphonse), The Evelyn, 101 W. 78th St, New York, N. Y. **American archeology.* Berne, Switzerland, Aug. 6, 40. Pub. schools. With Archeol. Inst, 80–85; Hemenway Exped, 86–89; sent to South America by Henry Villard, 92, and by Am. Mus. Nat. Hist. to Bolivia, 94–02; *Am. Mus. Nat. Hist, 02–; lecturer Am. archeol, Columbia, 04–* Fel. Ethnol. Soc; Archeol. Inst; Antiq. Soc; Schweiz. Naturforsch. Gesell. Documentary history; archeology; ethnology.—History, archeology and ethnology of Mexico, New Mexico, Arizona, Peru and Bolivia.

Bangs, Outram, 240 Beacon St, Boston, Mass. **Zoology.* Watertown, Mass, Jan. 12, 63. Lawrence Sci. Sch, Harvard, 84. *Asst. in charge of mammals, Mus. Comp. Zool, Harvard, 00–* F.A.A; fel. Ornith. Union; Boston Soc. Nat. Hist; Nuttall Ornith. Club. Mammals; birds.

Banker, Prof. Howard J(ames), De Pauw University, Greencastle, Ind. *Mycology.* Schaghticoke, N. Y, April 19, 66. A.B, Syracuse, 92; A.M, Columbia, 00. Instr. *biol,* South Western Nor. Sch, California, Pa, 01–04; *prof, De Pauw, 04–* F.A.A; Mycol. Soc; Torrey Bot. Club. The family of the Hydnaceae.—Revision of the Hydnaceae.

Banks, Nathan, East End, Va. *Entomology.* Roslyn, N. Y, April 13, 68. B.S, Cornell, 89, M.S, 90. Agent, *Div. Entom, U. S. Dept. Agr,* 90–92, *asst. entomologist, 96–* Custodian Arachnida, U. S. Nat. Mus. N. Y. Entom. Soc; Wash. Entom. Soc; Phila. Entom. Soc; assoc.

Phila. Acad. Systematic American arachnology and neuropterology; geographical distribution and habits of insects.—Catalogues of Neuroptera of the world and of American Arachnida; mimicry and protective resemblance in insects.

Barber, C(harles) M(elvin), Box 475, El Paso, Tex. *Zoology.* La Porte, Ind, Dec. 27, 76. N. Mex. Agr. and Mech. Col, 97–00. Collecting zoologist; *mem. Townsend-Barber Taxidermy and Zoological Co, El Paso, 99–* Assoc. Ornith. Union; Wash. Biol. Soc. Systematic mammalogy, habits, etc.—Habits and distribution of mammals of New Mexico.

Barber, Dr. Edwin A(tLee), 236 E. Biddle St, West Chester, Pa. *Ceramics, Archeology, Botany.* Baltimore, Md, Aug. 13, 51. A.M, Lafayette, 80, Ph.D, 93. Asst. naturalist, U. S. Geol. and Geog. Surv. of the Territories, 74–75; in business, 78–01; *curator and sec'y, Pa. Mus. and Sch. Indust. Art, 01–* Assoc. ed, 'Am. Antiquarian,' 79–84. Philos. Soc; Phila. Numis. and Antiq. Soc; Phila. Acad; Wis. Hist. Soc; Va. Hist. Soc; cor. mem. Soc. Mex. Hist. Nat; Soc. d'Anthrop. de Paris. Archeology; botany; ceramics.—Ceramics.

Barber, Herbert S(pencer), 703 E. Capitol St, Washington, D. C. *Entomology.* Yankton, S. Dak, April 12, 82. Pub. schools; entom. training under E. A. Schwarz and others. *Asst. preparator and collector,* U. S. Nat. Mus, 97–02; U. S. Dept. Agr, 02–04; *U. S. Nat. Mus, 04–* Wash. Entom. Soc; Wash. Biol. Soc. Coleoptera.

Barber, Prof. M(arshall) A(lbert), 1140 Louisiana St, Lawrence, Kas. *Botany, Bacteriology.* Crown Point, Ind, Nov. 22, 68. A.B, Kansas, 91; A.M, Harvard, 94. Asst. bot, Harvard, 92–93; asst. and *assoc. prof. bot. and bacter, Kansas, 94–* Bot. Cent. States. Bacteriology; cryptogamic botany.

Barbour, Prof. Erwin H(inckley), 1234 R St, Lincoln, Nebr. *Geology.* Springfield, Ind. A.B, Yale, 82, Ph.D, 87. Asst. paleontologist, U. S. Geol. Surv, under Prof. O. C. Marsh at Yale, 82–89; prof. geol, Iowa (Grinnell), 89–91; *prof. geol, Nebraska, state geologist and curator, State Mus, 91–* With U. S. Geol. and Hydrog. Surv. F.A.A; Geol. Soc; mem. Ornith. Union; Nat. Geog. Soc; Nebr. Acad; Nebr. Ornith. Union. Paleontology.

Bardeen, Dr. C(harles) R(ussell), University of Wisconsin, Madison, Wis. **Anatomy.* Kalamazoo, Mich, 71. A.B, Harvard, 93; M.D, Hopkins, 97. Asst. *anat,* Hopkins, 97–99, assoc, 99–01, assoc. prof, 01–04; *prof, Wisconsin, 04–* F.A.A; Soc. Nat; Ass. Anat; Soc. Zool. Anatomy; experimental morphology.—Growth of skeleton, muscles and nerves in vertebrates; variation in distribution of nerves in man; regeneration in planarians.

Bardwell, Prof. Fred L(eslie), 11 Chamblet St, Roxbury, Mass. *Chemistry.* Excelsior, Minn, Sept. 2, 58. B.S, Minnesota, 81; B.S, Mass. Inst. Tech, 84. Asst. *chem, Mass. Inst. Tech,* 84–86, instr, 86–94, *asst. prof, 94–* Work for various india-rubber mfg. and culture companies. Chem. Soc; Soc. Chem. Indust; Mass. Inst. Tech. Soc. Arts. India-rubber.

Barker, Prof. Franklin D(avis), Station A, Lincoln, Nebr. *Zoology.* Ottawa, Kas, Sept. 16, 77. A.B, Ottawa (Kas.), 98, A.M, 00. Prof. biol, Ottawa (Kas.), 98–03; *instr. zool, Nebraska, 04–* Asst. zool, Chicago, summers, 99, 00. Micros. Soc. Variations in Opisthorchis pseudo-felineus Ward; some new avian parasites.

Barker, Prof. George F(rederic), 3909 Locust St, Philadelphia, Pa. **Chemistry, Physics.* Charlestown, Mass, July 14, 35. Ph.B, Yale, 58; M.D, Albany Med. Col, 63. Asst, Harvard Med. Sch, 59–61; prof. chem, Wheaton, 61; Albany Med. Col, 63; Western Univ. of Pa, 63; physiol. chem. and toxicol, Yale, 67–73; *physics, Pennsylvania,* 73–00, *emer. prof, 00–* Asst. ed, 'Am. Jour. Science,' 68–00; ed, 'Jour. Franklin Inst,' 74–75; delegate, Elec. Cong, mem. Jury of Awards and U. S. Commissioner, Paris Elec. Expos, 81; mem. Jury of Awards, Columbian Expos, 93. Commandeur Légion d'honneur, 81; hon. Sc.D, Pennsylvania, 98; LL.D, Allegheny, 98; McGill, 00. Nat. Acad; F.A.A. (v. pres, 71, 76, pres, 79); Physical Soc; Chem. Soc. (pres, 91); Philos. Soc. (v. pres, 90); Soc. Int. des Elec; cor. mem. British Ass; hon. mem. Royal Inst; London Elec. Eng; Chem. Gesell. Spectrum of the aurora; efficiency of Edison's electric light; normal and derived acids; pitch of the tuning-fork.—Spectra of the monatomic gases; nature of radio-activity.

Barker, Dr. Lewellys F(ranklin), Johns Hopkins Hospital, Baltimore, Md. **Anatomy, Medicine.* Norwich, Ont, Sept. 16, 67. M.B, Toronto, 90; fellow, Hopkins, 92–94; Leipzig, 95; Munich and Berlin, 04. Assoc. anat, Hopkins, 94–97, assoc. prof, 97–99, path, 99–00; *prof.* anat, Chicago, and head, Dept. Anat, Rush Med. Col, 00–05; *med, Hopkins, 05–* Asst. res. pathologist, Hopkins Hosp, 94–99, Hopkins med. commissioner to Philippine Islands, 99; special federal commissioner from U. S. Treas. Dept. for investigation of plague in San Francisco, 01; assoc. ed, 'Am. Jour. Anat,' 02–; trustee, Memorial Inst. for Infectious Diseases, Chicago. Hon. M.D, Toronto, 05. Soc. Nat; Ass. Anat; Ass. Path. and Bact; Am. Physicians; Neur. Ass. Structure, physiology and pathology of the nervous system; infectious diseases; morbid anatomy of hereditary ataxia; amino-acids in urine.—Chemistry of reticulum; chemistry of proteid diet.

Barlow, Dr. A(lfred) E(rnest), 459 Gilmour St, Ottawa, Can. *Geology, Petrography.* Montreal, Can, June 17, 61. A.B, McGill, 83, A.M, 89, Sc.D, 00. *Field geologist, Can. Geol. Surv, 83–* Fel. Can. Royal Soc. Crystalline rocks; the nickel bearing rocks of Sudbury, Ontario.—The iron formations of Nepessing, Ontario.

Barnard, Prof. E(dward) E(merson), Yerkes Observatory, Williams Bay, Wis. **Astronomy.*

Nashville, Tenn, Dec. 16, 57. Vanderbilt, 87; A.M, Pacific, 89. In charge, Vanderbilt Univ. Observatory, 83–87; astronomer, Lick Observatory, 87–95; *prof. practical astron, Chicago, and astronomer, Yerkes Observatory, 95–* Mem. U. S. Naval Observatory Total Eclipse Exped. to Sumatra, 01. Hon. Sc.D, Vanderbilt, 93; Lalande gold medal, Paris Acad, 92, Arago gold medal, 93, Janssen gold medal, 00; gold medal, Royal Astron. Soc, 97. F.A.A. (v. pres, 98); Astron. and Astrophys. Soc; assoc. fel. Am. Acad; Philos. Soc; for. assoc. and fel. Royal Astron. Soc; Soc. astron. de France. Visual and photographic astronomy. —Star clusters; parallax; variable stars in clusters; etc.

Barnard, Prof. W(illia)m N(ichols), Cornell University, Ithaca, N. Y. *Mechanical engineering.* Canton, Ills, April 24, 75. M.E, Cornell, 97. Instr. machine design, Cornell, 97–00; chief draftsman, The Russell Engine Co, Massillon, O, 01–03; *asst. prof.* machine design, *Cornell, 03–05, power eng, 05–* Mech. Eng. Machine design; steam machinery.

Barnes, Prof. C(harles) R(eid), University of Chicago, Chicago, Ills. **Plant physiology.* Madison, Ind, Sept. 7, 58. A.B, Hanover, 77, A.M, 80, Ph.D, 86; Harvard, 78–79, 85–86. Instr. nat. science, High Sch, Lafayette, Ind, 80; Purdue, 80–82, *prof,* 82–85, bot. and geol, 85–87; bot, Wisconsin, 87–98; *plant physiol, Chicago, 98–* Assoc. ed. and ed, 'Bot. Gazette,' 83–; mem. State Board Examiners, Wis, 93–96. F.A.A. (sec'y, G, 94, sec'y of Council, 95, gen. sec'y, 96, v. pres, 99); Soc. Nat; Bot. Soc. (sec'y, 94–98, pres, 03); Bot. Cent. States; Wis. Acad; Ind. Acad. Mosses of North America.—Physiology of plants.

Barnes, Prof. H(oward) T(urner), 327 Pine Ave, Montreal, Can. *Physics.* Woburn, Mass, July 21, 73. B.A.S, McGill, 93, M.A.S, 96, Sc.D, 00. Demonstrator *physics, McGill,* 95–98, lecturer, 00–01, *asst. prof, 01–* Mem. Board of Reviewers, 'Jour. Physical Chem.' Joule studentship, London Royal Soc. Physical Soc; Electrochem. Soc; fel. Can. Royal Soc; Soc. de Physique. Standards of electromotive force; continuous electric calorimetry; specific heats of water and mercury; density of ice.—Variation of the specific heat of liquids with temperature; critical velocity of liquids; thermal and electrical measurements; heating effect of radium.

Barnes, Dr. James, Johns Hopkins University, Baltimore, Md. *Physics.* Halifax, N. S, Dec. 11, 78. A.B, Dalhousie, 99, A.M, 00; fellow, Hopkins, 03–04, Ph.D, 04. *Instr. physics, Hopkins, 04–* Physical Soc. Electrical conductivity and freezing-points of mixtures of electrolytes; spectrum analysis.—Determination of a new standard table of wave-lengths of light.

Barnett, Prof. S(amuel) J(ackson), Tulane University, New Orleans, La. **Physics.* Kas, Dec. 14, 73. Chicago, 92–93; A.B, Denver, 94; Virginia, 96; fellow, Cornell, 96–98, Ph.D, 98. Instr. physics and biol, Denver, 94–95; asst, Astron. Observatory, Virginia, 95–96, instr. astron, 96; instr. and later prof. *physics,* Colorado, 98–00; asst. prof, Stanford, 00–05; *prof, Tulane, 05–* Magnetic observer, U. S. Coast and Geod. Surv, 02–04. Physical Soc. Experimental and theoretical electricity; elasticity.—Electrical displacement developed in an insulator by its motion through a magnetic field; unipolar induction.

Barneveld, Prof. Cha(rle)s E(dwin) van, 905 Fifth St, S.E, Minneapolis, Minn. *Mining and metallurgical engineering.* Doetinchem, Netherlands, Nov. 26, 71. Collége Commercial, Boulogne; Kings Col, Can; B.S, McGill, 91. Mining engineer, 91–96; asst. prof. miner. and practical metal, Ariz. Sch. Mines, 96–97; *prof. mining eng, Minnesota, and consulting mining engineer, 98–* Min. Eng. Metal mining.

Barnhart, Dr. John Hendley, 34 Windle Park, Tarrytown, N. Y. *Botany.* Brooklyn, N. Y, Oct. 4, 71. A.B, Wesleyan, 92, A.M, 93; M.D, Columbia, 96. F.A.A; Soc. Nat; Torrey Bot. Club (editor-in-chief, 03–); N. Y. Bot. Garden (ed. asst, 03–); Wash. Biol. Soc. Botanical bibliography and nomenclature; taxonomy of flowering plants.—American Lentibulariaceae; local floras of North America.

Barnum, Dr. Charlotte C(ynthia), Coast and Geodetic Survey, Washington, D. C. *Mathematics.* Phillipston, Mass, May 17, 60. A.B, Vassar, 81; Hopkins, 90–92; Ph.D, Yale, 95. Teacher, Betts Acad, Stamford, Conn, 81–82; Hillhouse High Sch, New Haven, 83, 85–86; computer, Yale Observatory and 'Dana's Mineralogy,' 83–87; teacher astron, Smith, 89–90; math, Carleton, 95–96; *computer,* Mass. Mutual Life Ins. Co, 98; Fidelity Mutual Life Ins. Co, Phila, 00–01; U. S. Naval Observatory, 01; *Tidal Div, U. S. Coast and Geod. Surv, 01–* Asst. ed, 'Webster's Int. Dict,' 86–90, 97. F.A.A; Math. Soc. Functions having lines or surfaces of discontinuity.—Tides and currents.

Barr, Prof. Charles E(lisha), 111 Oswego St, Albion, Mich. *Zoology.* Watertown, N. Y, April 8, 60. A.B, Williams, 81, A.M, 87. *Prof.* nat. science, Baldwin, 87–88; astron, *Albion,* 88–96, *biol, 94–* Pres, Bay View Summer Univ, 00– M.A.A; Mich. Acad. (pres, 01). Origin and nature of sex.

Barr, Prof. John H(enry), 113 Comstock Ave, Syracuse, N. Y. *Machine design.* Terre Haute, Ind, June 19, 61. B.M.E, Minnesota, 83, M.S, 88; M.M.E, Cornell, 89. Draftsman, Calumet and Hecla Mining Co, 83–84; mech. engineer, Lake Superior Iron Works, 84–85; instr, later asst. prof. and prof. mech. eng, Minnesota, 85–91; asst. prof, Cornell, 91–95, assoc. prof. and prof. machine design, 95–03; *factory manager, Smith Premier Typewriter Co, 03–* Mem. N. Y. State Commission on Voting Machines, 03. F.A.A; Mech. Eng; Ass. Adv. Tech. Educ. Proportions of steam-engines; engine valve friction; compression in steam-engines; kinematics of machinery.

Barrell, Dr. Joseph, Yale University, New Haven, Conn. *Geology.* New Providence, N. J, Dec. 15, 69. B.S, Lehigh, 92, E.M, 93, M.S, 97; Ph.D, Yale, 00. Teacher, pub. schools, 86–87; instr. mining and metal, Lehigh, 93–97; mining engineer, 97–98; *asst. prof.* geol, Lehigh, 00–03; *structural geol, Yale, 03–* With U. S. Geol. Surv, Mont, 99–00, 01. F.A.A; Geol. Soc. Petrology; physical geology.—Geology of western Montana.

Barringer, Daniel Moreau, 460 Bullitt Building, Philadelphia, Pa. *Geology.* Raleigh, N. C, May 25, 60. A.B, A.M, Princeton, 79; LL.B, Pennsylvania, 82; Harvard, 89–90; Virginia, 91. Practised law, Phila, 82–89; *consulting geologist and mining engineer, 91–* Trustee, Jefferson Med. Col, Phila. M.A.A; Min. Eng; Am. Geog. Soc; Phila. Acad; Franklin Inst. Mines and mining in the United States; minerals of commercial value.

Barrows, Dr. Franklin W(illiam), 1364 Michigan St, Buffalo, N. Y. *Medicine, Zoology.* Springfield, Ills, Jan. 24, 63. Tabor, 81–84; A.B, Amherst, 85, A.M, 87; M.D, Buffalo, 93. Instr. science, Worcester Acad, Mass, 85–88; Central High Sch, Buffalo, 88–03; prof. histol. and biol, Buffalo, 95–02. Assoc. ed, 'Sch. Science,' 02– M.A.A; Nat. Educ. Ass; N. Y. State Sci. Teachers Ass. (pres, 01). Nutrition of the nerve cell.

Barrows, Prof. Walter B(radford), Agricultural College, Mich. *Zoology, Ornithology, Entomology.* Wellesley Hills, Mass, Jan. 10, 55. B.S, Mass. Inst. Tech, 76. Instr. chem. and physics, Col. Nacional, Arg. Rep, 79–81; science, State Nor. Sch, Westfield, Mass, 81–82; biol, Wesleyan, 82–86; first asst. ornithologist, U. S. Dept. Agr, 86–94; *prof. zool. and physiol, Mich. Agr. Col, 94–* Entomologist, Mich. Agr. Exp. Sta, 97–98. F.A.A; fel. Ornith. Union; Ass. Econ. Entom; Mich. Acad. (sec'y, 96–01); Boston Soc. Nat. Hist. Migration and economic relations of birds; interrelations of birds and insects; economic entomology.—Id; local (Mich.) bird population and the causes of fluctuation.

Bartlett, Prof. C(harles) J(oseph), 96 Sherman Ave, New Haven, Conn. *Pathology.* Sutton, Vt, Dec. 18, 64. A.B, Yale, 92, A.M, 94, M.D, 95. Asst. and instr. *path, Yale,* 95–97, asst. prof, 97–00, *prof, 00–* Pathologist, New Haven Hosp, 00– Soc. Nat; Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Micros. Soc; N. Y. Path. Soc; Conn. Acad; Conn. Med. Soc; New Haven Co. and City Med. Societies. Bacterial symbiosis.

Bartlett, Prof. Dana P(rescott), Massachusetts Institute of Technology, Boston, Mass. *Mathematics.* Boston, Oct. 4, 63. B.S, Mass. Inst. Tech, 86; Munich, 03–04. Instr. *math, Mass. Inst. Tech,* 86–92, asst. prof, 92–98, assoc. prof, 98–05, *prof, 05–* Asst, Harvard Col. Observatory, 87. Math. Soc; Math. Verein. Method of least squares.

Bartlett, Prof. Edwin Julius, Hanover, N. H. *Chemistry.* Hudson, O, Feb. 16, 51. A.M, Dartmouth, 72; M.D, Rush Med. Col, 79. Instr. sciences, Monson Acad, Mass, 72–73; High Sch, Glencoe, Ills, 74–75; Lake Forest Acad, 76–78; assoc. prof. *chem, Dartmouth,* 79–83, *prof, 83–* F.A.A; Chem. Soc; Medico-Legal Soc. Toxicology.

Bartley, Dr. E(lias) H(udson), 65 S. Portland St, Brooklyn, N. Y. *Pediatrics, Chemistry.* Bartley, N. J, Dec. 6, 49. B.S, Cornell, 73; M.D, Long Isl. Col. Hosp, 79. Instr. chem, Cornell, 74–75; prof, Swarthmore, 75–78; chief chemist, Health Dept, Brooklyn, 82–88; *prof. chem. and toxicol, Long Isl. Col. Hosp, 86–, pediatrics, 01–; dean and prof. org. chem, Brooklyn Col. Pharmacy, 92–* Mem. Kings Co. Board of Pharmacy, 91–98. Hon. Ph.G, Brooklyn Col. Pharmacy, 96. F.A.A; Chem. Soc; Pub. Health Ass; Pharmaceut. Ass; N. Y. State Pharmaceut. Ass; Kings Co. Med. Soc; Brooklyn Pediat. Soc; Brooklyn Path. Soc. Food chemistry; clinical chemistry; infant feeding.

Barton, Dr. B(olling) W(alker), Pikesville, Md. *Botany.* Winchester, Va, Nov. 24, 47. M.D, Md. Sch. of Med. *Instr. bot, Hopkins, 80–* Teacher in private schools. Soc. Nat. Vegetable morphology.

Barton, G(eorge) E(stes), 419 N. High St, Millville, N. J. *Chemistry.* Worthington, Mass, May 9, 71. B.S, Worcester, 91; M.S, Columbian, 95. Asst. chemist, Naval Torpedo Sta, Newport, R. I, 91–92; chemist, Aetna Powder Co, Chicago, 92–94; *chief chemist, Whitall Tatum Co, 96–* F.A.A; Chem. Soc; Soc. Chem. Indust. Explosives; glycerine; glass; graduated chemical glassware.—Chemistry of glass manufacture.

Barton, Prof. Geo(rge) H(unt), 16 Lexington Ave, Cambridge, Mass. *Geology.* Sudbury, Mass, July 8, 52. B.S, Mass. Inst. Tech, 80. Asst. drawing, Mass. Inst. Tech, 80–81; asst, Hawaiian Govt. Geol. Surv, 81–83; asst. geol, Mass. Inst. Tech, 83; asst. geologist, U. S. Geol. Surv, 89–94; asst. prof. geol, Mass. Inst. Tech, 96–04; *curator, Teachers Sch. of Science, 02–* F.A.A; Geol. Soc; Nat. Geog. Soc; Boston Soc. Nat. Hist. Glacial geology.—Distribution and origin of drumlins in Massachusetts.

Barton, Dr. Sam(ue)l M(arx), Sewanee, Tenn. *Mathematics.* Near Winchester, Va, May 9, 59. A.B, Virginia, 83, Ph.D, 85; fellow by courtesy, Hopkins, 93–94. Prof. math, Emory and Henry, 85–93; math. and civil eng, Va. Agr. and Mech. Col, 94–95; *prof. math. and acting prof. civil eng, Univ. of the South, 95–* F.A.A; Math. Soc; Eng. Educ. Theory of equations; plane surveying.

Bartow, Prof. Edward, University of Illinois, Urbana, Ills. *Chemistry.* Glenham, N. Y, Jan. 12, 70. A.B, Williams, 92; Ph.D, Göttingen, 95. Asst. *chem,* Williams, 92–94, instr, 95–97; Kansas, 97–99, assoc. prof, 99–05; prof, Kansas City Med. Col, 02–05; *assoc. prof, Illi-*

nois, and director, State Water Surv, 05– Acting assoc. prof. chem, Kansas, 97. M.A.A; Chem. Soc; Kas. Acad. (v. pres, 02, pres, 04); Chem. Gesell. Crystals of white arsenic; formation of amids in anhydrous ammonia; derivatives of m-isocymene; synthetical preparation of quinolin derivatives; water; derivatives of m-ethyltoluene.—Anhydrids of the chloracetic acids; water.

Bartsch, Prof. Paul, Smithsonian Institution, Washington, D. C. *Conchology, Biology.* Tuntschendorf, Germany, Aug. 14, 71. B.S, Iowa, 96, M.S, 99, Ph.D, 05. Aid, *Div. Mollusks, U. S. Nat. Mus,* 96–05, *asst. curator, 05–; prof. zool, George Washington, 99–; histol, Med. Dept, Howard, 01–* Assoc. ed, 'The Osprey,' 00– M.A.A; mem. Ornith. Union; Wash. Biol. Soc; Wash. Micros. Soc. (pres, 00–02). Mollusks; birds.—The west American Pyramidellidae.

Barus, Prof. Carl, 30 Elmgrove Ave, Providence, R. I. **Physics.* Cincinnati, O, Feb. 19, 56. Sch. of Mines, Columbia, 74–76; Würzburg, 76–80, Ph.D, 79. Physicist, U. S. Geol. Surv, 80–92; prof, U. S. Weather Bur, 92–93; physicist, Smithsonian Inst, 93–95; *Hazard prof. physics, Brown, 95–, dean, Grad. Dept, 03–* Asst. to Prof. Kohlrausch, Würzburg, 79–80; mem. Council, Carnegie Inst, 02. Rumford medal, 00. Nat. Acad; F.A.A. (v. pres, 97); Physical Soc. (pres, 04); Philos. Soc; Am. Acad; Wash. Acad; cor. mem. British Ass; hon. mem. Royal Inst. Magnetism; iron carburets; high temperatures; high pressures; thermodynamics; physical geology; atmospheric condensation; ionization.—Ionization and nucleation of gases and the atmosphere.

Bascom, Dr. F(lorence), Bryn Mawr, Pa. **Geology.* Williamstown, Mass. A.B, B.L, Wisconsin, 82, B.S, 84, A.M, 87; Ph.D, Hopkins, 93. Instr. geol. and petrog, Ohio State, 93–95; *lecturer and assoc. prof. geol, Bryn Mawr, 95–* Assoc. ed, 'Am. Geologist,' 96–; geol. asst, U. S. Geol. Surv, 96–01, asst. geologist, 01– Int. Geol. Cong, 97. F.A.A; Geol. Soc; Phila. Acad. Ancient lavas and the crystalline schists; geology of eastern Pennsylvania.—Geology of the Piedmont plateau of eastern Pennsylvania; petrography of the Neponset area, Boston basin.

Baskerville, Prof. Charles, College of the City of New York, New York, N. Y. **Chemistry.* Deer Brook, Miss, June 18, 70. Mississippi, 86–87; Virginia, 88–90; Vanderbilt, 91; B.S, North Carolina, 92; Berlin, 93; Ph.D, North Carolina, 94. Asst. *chem,* North Carolina, 92, instr, 94, asst. prof, 95–98, assoc. prof, 98–00, *prof. and director, Chem. Lab,* 00–04; *Col. City of N. Y, 04–* Asst. to state geologist, N. C, 92–94; asst. chemist, N. C. Geol. Surv, 94–00, chemist, 00–04. F.A.A. (sec'y, C, 98, mem. Council, 99, gen. sec'y, 00, v. pres, 03); Chem. Soc. (chairman, N. C. Sect. and mem. Council); Soc. Chem. Indust; Wash. Acad; N. C. Acad. (pres.); N. Y. Chemists Club (sec'y); fel. London Chem. Soc; Chem. Gesell. Rare earths, especially zirconium, thorium and praeseodymium; reaction of metal with concentrated sulphuric acid; universal distribution of certain elements, as titanium; analysis of titaniferous iron ores, etc.—Existence of carolinium; new salts of rare earth; atomic weight of thorium and praeseodymium; lanthanates, neodymates, praeseodymates and lanthanalums; thorates; variability of preparations.

Baskett, James Newton, Mexico, Mo. *Zoology, Ornithology.* Nicholas Co, Ky, Nov. 1, 49. Ph.B, Missouri, 72, A.M, 93. M.A.A; assoc. Ornith. Union; Wash. Biol. Soc. Habits of birds; the bearing of oology on the kinship of birds; ethnology bearing on the route of Coronado's expedition.

Basquin, Dr. Olin H(anson), Evanston, Ills. *Physics, Applied mechanics.* Dows, Ia, Jan. 30, 69. A.B, Ohio Wesleyan, 92, and Harvard, 94; A.M, Northwestern, 95, Ph.D, 01. Chief engineer, Luxfer Prism Companies, 97–00; *assoc. prof. physics, Northwestern, 01–* M.A.A; Physical Soc; Soc. Testing Materials. Distribution of daylight; arc spectrum of hydrogen.—Steam meter, rotating commutator; direction of stress in beams.

Bass, Col. Edgar W(ales), U. S. A. (retired), Bar Harbor, Me. *Military science, Mathematics, Astronomy.* Prairie du Chien, Wis, Oct. 30, 43. Grad, U. S. Mil. Acad, 68. Officer, Corps of Engineers, U. S. A, 68–78; prof. math, U. S. Mil. Acad, 78–98; col, U. S. A, retired, 98. U. S. Vol. Army, 62–64; instr. philos, U. S. Mil. Acad, 69–74, 76–78; asst. astronomer, U. S. Transit Venus Exped, New Zealand, 74–75; Solar Eclipse Exped, Colo, 78. Math. Soc; Archeol. Inst; Mil. Order Loyal Legion. Mathematics.

Bates, F(rederick) J(ohn), Bureau of Standards, Washington, D. C. *Physics.* Marysville, Kas, Jan. 2, 77. B.S, Kansas, 00; A.M, Nebraska, 02. *Lab. asst, Bur. Standards, 03–* Supervisor, Government Sugar Laboratories, Customs Serv, Treas. Dept; mem. Int. Sugar Commission. Physical Soc; Wash. Philos. Soc. Natural and magnetic rotary polarization, especially anomalous rotary dispersion.—Anomalous rotary dispersion; effect of clarifying reagents on rotary dispersion curves of sugar solutions; sensibility of sensitive strip spectral polarizing system.

Bates, Rev. J(ohn) M(allery), Red Cloud, Nebr. *Botany, Ornithology.* Wallingford, Conn, Jan. 3, 46. A.B, Trinity, 72, A.M, 75; grad, Berkeley Divinity Sch, Middletown, Conn, 75. V. principal, High Sch, Middletown, 73–74; *clergyman, 76–* Chaplain and head master, Bethany Col, Topeka, Kas, 83–86. F.A.A; assoc. Ornith. Union; Nebr. Ornith. Union (pres, 02). Plant rusts, their life history; the economic value of the fodder plants of Nebraska.—Id; the ranges of known rusts.

Bauer, Prof. Geo(rge) N(eander), University of Minnesota, Minneapolis, Minn. *Mathematics.* Jordan, Minn, Jan. 8, 72. B.S, Minnesota,

94; M.S, Iowa, 98; Ph.D, Columbia, 00. Teacher, High Sch, Montevideo, Minn, 94–95; instr. *math*, Iowa, 95–98; *Minnesota*, 00–02, *asst. prof*, *02–* Math. Soc. The parallax of μ Cass, and the positions of 56 neighboring stars; simpler elements of analytic geometry.—Trigonometry.

Bauer, Dr. L(ouis) A(gricola), The Ontario, Washington, D. C. **Terrestrial magnetism, Physics, Mathematics.* Cincinnati, Ohio, Jan. 26, 65. C.E, Cincinnati, 88, M.S, 94; Ph.D, Berlin, 95. Computer, U. S. Coast and Geod. Surv, 87–92; docent math. physics, Chicago, 95, instr. geophysics, 96; asst. prof. math. and math. physics, Cincinnati, 97–99; *chief, Div. Terrestrial Magnetism, and inspector magnetic work, U. S. Coast and Geod. Surv, 99–; director, Dept. Terrestrial Magnetism, Carnegie Inst, 04–* Chief, Div. Terrestrial Magnetism, Md. Geol. Surv, 96–99; astronomer and magnetician, West. Boundary Surv, 97; lecturer terrestrial magnetism, Hopkins, 99–; mem. Commission on Terrestrial Magnetism, Int. Ass. Academies, 04–; ed, 'Terrestrial Magnetism and Atmospheric Elec.' Int. Meteor. Conf, 98 (mem. Permanent Committee). F.A.A; Physical Soc; Astron. and Astrophys. Soc; Geog. Ass; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc; Soc. Cient. Ant. Alz. Terrestrial magnetism.

Baum, Prof. F(rank) G(eorge), Stanford University, Cal. *Electrical engineering.* Ste. Genevieve, Mo, July 18, 70. A.B, Stanford, 98, E.E, 99. Asst. elec. eng, Stanford, 98–99; practical work, 99–00; instr. *elec. eng, Stanford*, 00–02, *asst. prof*, *02–* Chief engineer, Cal. Gas and Elec. Corpor, 04– Elec. Eng. Alternating current work.—Compounding alternating current generators; the limiting distance to which power can be transmitted.

Baumgarten, Dr. G(ustav), 4900 Berlin Ave, St. Louis, Mo. *Medicine.* Clausthal, Germany, June 1, 37. M.D, St. Louis Med. Col, 56; Göttingen, Berlin, Prague and Vienna, 56–59. Asst. and past asst. surgeon, U. S. N, 61–65; *prof.* physiol, St. Louis Med. Col, 73–87, special path. and therapeut, 87–93; *practise of med, Med. Dept, Washington (St. Louis)*, *93–* Ed, 'St. Louis Med. and Surg. Jour,' 68–71. Am. Physicians (pres, 99); St. Louis Acad; St. Louis Med. Soc; St. Louis Verein Deutscher Aerzte. Diseases of the heart and kidneys; physiology and pathology of the circulation.

Bausch, Edward, Care Bausch and Lomb Optical Co, Rochester, N. Y. **Optics.* Rochester, Sept. 26, 54. Cornell, 75. *Mem. Bausch and Lomb Optical Co.* F.A.A; Micros. Soc. Optics; manipulation of the microscope.

Bawden, Prof. H(enry) Heath, (Jr), Vassar College, Poughkeepsie, N. Y. *Philosophy, Psychology.* Elyria, O, Sept. 28, 71. Illinois, 88–90; A.B, Denison, 93, fellow, 93–94, A.M, 94; Rochester Theol. Sem, 94–96, 97–98; fellow, Chicago, 98–00, Ph.D, 00. Instr, Gymnasium, Denison, 91–94, biol, 97–98; *philos*, Iowa, 00–01; *prof, Vassar, 01–* F.A.A; Philos. Ass; Psychol. Ass; West. Philos. Ass. The nasal organs in Amphibia, with special reference to Jacobson's organ; psychology of smell; psychology of lapses; psychology of logic; pragmatism; methodology of genetic science; esthetics.

Baxter, Prof. Gregory P(aul), 27 Warren Ave, Somerville, Mass. *Chemistry.* Somerville, March 3, 76. A.B, Harvard, 96, A.M, 97, Ph.D, 99. Asst. chem, Harvard, 95–97, instr, 97–99; Haverford, 99–00; asst. prof, Swarthmore, 00–02; instr. anal. chem, *Harvard*, 02–05, *asst. prof. chem*, *05–* Instr, Summer Sch, Harvard, 97, 02–05. Chem. Soc; Chem. Gesell. Atomic weights of cobalt, iron and iodin.—Atomic weights of iron, cadmium, manganese, chromium iodin and bromin.

Bayley, Dr. W(illiam) S(hirley), Waterville, Me. **Mineralogy, Geology.* Baltimore, Md, Nov. 10, 61. A.B, Hopkins, 83, Ph.D, 86. Prof. geol, Colby, 88–04. Asst. geologist, U. S. Geol. Surv, 89–; assoc. ed, 'Am. Naturalist,' 86–; reviewer, 'Neues Jahrbuch,' 90– F.A.A; Geol. Soc; Nat. Geog. Soc; Wash. Geol. Soc; Chem. Gesell. Geology of iron districts of the Lake Superior region; metamorphism; igneous rocks.—Geology of New Jersey Highlands.

Beach, Prof. Frederick Elijah, 44 Lyon St, New Haven, Conn. *Physics.* New Haven, June 12, 63. Ph.B, Yale, 83, Ph.D, 93. Machinist and draftsman, 83–90; asst. *physics, Yale*, 91–94, instr, 94–95, *asst. prof*, *95–* Physical Soc. General physics.

Beach, S(pencer) A(mbrose), State Experiment Station, Geneva, N. Y. *Horticulture.* Summer Hill, N. Y, Sept. 15, 60. B.S.A, Iowa State, 87, M.S, 92. Assoc. prof. hort. and bot, Tex. Agr. and Mech. Col, 90–91; *horticulturist, State Exp. Sta, Geneva, N. Y, 91–* F.A.A; Pomol. Soc; Soc. Hort. Sci. (sec'y); Royal Hort. Soc. Treatment of diseases of horticultural plants; fertilizers for lettuce under glass; self-sterility of grapes; pomological varieties.—Fertilizers for forcing house crops and orchards; pomological varieties; plant breeding; stocks for grapes and apples.

Beadle, C(hauncey) D(elos), Biltmore, N. C. **Botany.* St. Catharines, Ont, Aug. 5, 66. Ont. Agr. Col, 84; Cornell, 89. *Director, Biltmore Herbarium, 90–* Botany of the southern states.—Crataegus.

Beal, Prof. F(oster) E(llenborough) L(ascelles), Berwyn, Md. *Ornithology.* South Groton (now Ayer), Mass, Jan. 9, 40. B.S, Mass. Inst. Tech, 71. Instr. math, Mass. Inst. Tech, 70–74; prof. civil eng, Iowa State, 76–83, acting prof. zool. and comp. anat, 80–83; *econ. ornithologist, Biol. Surv, U. S. Dept. Agr, 91–* Fel. Ornith. Union; Wash. Biol. Soc. Economic ornithology.

Beal, Dr. W(illiam) J(ames), Agricultural College, Mich. **Botany.* Adrian, Mich, March 11, 33. A.B, Michigan, 59, A.M, 63; B.S, Harvard, 65; M.S, Chicago, 75; Ph.D, Michigan, 80. Teacher nat. science, Friends Acad. and Howland Inst, Union Springs, N. Y, 59–68; *prof. bot*, Chicago,

68–70; *Mich. Agr. Col, 70–* Director, State Forestry Commission, Mich, 88–92. Wilder silver medal, Pomol. Soc; hon. Sc.D, Mich. Agr. Col, 05. F.A.A. (v. pres, 83); Bot. Soc; Soc. Prom. Agr. Sci; Pomol. Soc; Bot. Cent. States; Mich. Acad. (pres, 92–); Mich. State Teachers Ass. (pres.). Grasses; how plants protect themselves.

Bean, Dr. Tarleton H(offman), 1001 G St, N. W, Washington, D. C. *Zoology.* Bainbridge, Pa, Oct. 8, 46. M.D, Columbian, 76; M.S, Indiana, 83. Principal, High Sch, Wilkes-Barre, 71–74; curator fishes, U. S. Nat. Mus, 80–87; asst. in charge, Div. Fish Culture, U. S. Fish Commission, 92–95; director, N. Y. Aquarium, 95–98; chief, Dept. Fish and Game, and Dept. Forestry, La. Purchase Expos, 02–05. Rep. of U. S. Fish Commission, Columbian Expos, 92–94; Atlanta Expos, 94–95; director, U. S. Forestry and Fisheries, Paris Expos, 99–01. Silver medal, London Fisheries Exhib, 83; gold medal, Paris Expos, 00; Chevalier Légion d'honneur; Chevalier Royal Order of the Red Eagle. Forestry Ass; Fisheries Soc; St. Louis Acad; Danish Fisheries Soc. Distribution and habits of fish.—Diseases of fishes; distribution and habits of the fishes of New York.

Beard, Dr. R(ichard) O(lding), 812 Pillsbury St, Minneapolis, Minn. *Physiology, Dietetics.* Middlesex, England, Dec. 20, 56. M.D, Northwestern, 82. *Prof. physiol. and dietetics, Minnesota, 87–* Assoc. Am. Med. Ass; Pub. Health Ass; Minn. Acad. Med. (v. pres.); Minn. Med. Soc. Nervous system; dietetics; physiological chemistry.—Food adulterations.

Beardsley, Prof. Arthur, Swarthmore, Pa. *Engineering.* Esopus, N. Y, Nov. 1, 43. C.E, Rensselaer, 67; Ph.D, Swarthmore, 89. Instr. civil eng, physics and indust. mech, Minnesota, 69–70, prof, 70–72; *eng, Swarthmore,* 72–98, *emer. prof, 98–* Asst. engineer, Hoosac Tunnel, 67–68. F.A.A. (sec'y, D, 88, v. pres, 90); Civil Eng; Mech. Eng; Franklin Inst. (chairman, Committee on Science and Arts, 92–94).

Beardsley, Prof. Arthur E(ugene), 1412 Tenth St, Greeley, Colo. *Biology.* Olean, N. Y, Oct. 4, 53. B.S, Cornell, 78; M.S, Colorado, 98. Teacher science, High Sch, Decatur, Ills, 78–79; principal pub. schools, Pleasanton, Kas, 79–80; practising irrigation engineer, 80–92; *prof. biol, Colo. State Nor. Sch, 92–* Delegate, Am. Forestry Cong, 83. F.A.A; Micros. Soc; Nat. Geog. Soc; Wash. Biol. Soc; Colo. Acad; Colo. Micros. Soc. Protozoa and Entomostraca of Colorado.—Fauna of Colorado, its historical and ecological relations and geographical distribution.

Beauchamp, Rev. W(illiam) M(artin), 204 Maple St, Syracuse, N. Y. *History, Archeology.* Coldenham, N. Y, March 25, 30. Delancey Divinity Sch. Rector, Grace Church, Baldwinsville, N. Y, 65–00; *examining chaplain of diocese of Central N. Y, 84–* Archeologist, N. Y. State Mus. S.T.D, Hobart, 86; adoption by Onondagas, 04. Onondaga Acad. (pres, 01–02); Onondago Hist. Ass. (director, 89–). American history; archeology; natural sciences; folklore, language and history of the Iroquois.—Archeology; New York Indian life.

Becelaere, Rev. E(dward) G(regory) L(awrence) van, Benson, Ills. *Philosophy, Semitics.* Heûle, Belgium, Nov. 24, 72. Corbara, Corsica, 89–96, Ph.D, D.D, 96; Jerusalem and Paris, 99. Prof. philos, Dominican Convent, St. Hyacinthe, Can, 96–98; moral theology, Dominican Col, Ottawa, 00–03. Prof. Holy Scripture, St. Hyacinthe, 00; Ottawa, 01. Philos. Ass. Scholastic and modern American philosophy.—American philosophy.

Becker, Dr. George F(erdinand), 2020 R St, Washington, D. C. **Geology.* New York, N. Y, Jan. 5, 47. A.B, Harvard, 68; Ph.D, Heidelberg, 69; Berlin, 71. Constructing engineer, Joliet Iron and Steel Co, 72–73; instr. mining and metal, California, 75–79; *geologist in charge, U. S. Geol. Surv, 79–* Special agent, Tenth Census. Military medal from State of Montana, 99. Nat. Acad; F.A.A; Geol. Soc; Min. Eng; Wash. Acad. Geology; physics; chemistry.—Geophysics.

Bedell, Dr. Frederick, Cornell University, Ithaca, N. Y. **Physics, Electrical engineering.* Brooklyn, N. Y, April 12, 68. A.B, Yale, 90; M.S, Cornell, 91, fellow, 91–92, Ph.D, 92. Instr. *physics, Cornell,* 92–93, asst. prof, 93–04, *prof, 04–* Assoc. ed, 'Physical Rev.' F.A.A. (gen. sec'y, 99); Physical Soc; Elec. Eng; Franklin Inst; London Physical Soc. Alternating currents of electricity.

Beebe, C. William, New York Zoological Park, New York, N. Y. *Ornithology.* Brooklyn, N. Y, July 29, 77. Columbia, 96–99. *Curator ornith, N. Y. Zool. Park, 99–* F.A.A; mem. Ornith. Union; N. Y. Linnean Soc; N. Y. Zool. Soc; N. Y. Acad. Ecology of the birds of the nearctic and neotropical regions.—Psychology of certain wild birds reared in captivity.

Beebe, Dr. S(ilas) P(almer), 216 Central Ave, Flushing, N. Y. *Physiological chemistry.* St. Johns, Mich, April 22, 76. B.S, Valparaiso, 96; B.S, Harvard, 00; M.S, Yale, 02, Ph.D, 04. Instr. chem, High Sch, New Haven, 00–03; *physiol. chemist, Huntington Fund for Cancer Research, Loomis Lab, 03–* Lecturer, Summer Sch, Harvard, 02–04. Physiol. Soc. Effect of alcohol and alcoholic fluids on excretion of uric acid in man; inorganic constituents of tumors; autolysis of tumor tissue; pentose in tumor tissue; fat from proteid.—Immunity.

Beebe, Prof. William, 262 Bradley St, New Haven, Conn. *Mathematics, Astronomy.* Litchfield, Conn, Sept. 4, 51. A.B, Yale, 73. Tutor math, *Yale,* 76–82, asst. prof. math. and astron, 82–97, *prof. math. and instr. astron, 97–* Hon. A.M, Yale, 97. Math. Soc. Astronomy.

Beede, Dr. J(oshua) W(illiam), Bloomington, Ind. *Geology, Paleontology.* Raymond, N. H, Sept. 14, 71. B.S, Washburn, 96, A.M, 97; Ph.D, Kansas, 99. Student instr. paleont, Kansas, 97–99; teacher science, Atchison Co. High Sch,

99–01; *instr. geol, Indiana, 01–* Asst, Kas. Geol. Surv, 96, 98, 03–05; U. S. Geol. Surv, 01, 02. M.A.A; Geol. Soc; Ind. Acad; Kas. Acad. Stratigraphic geology and paleontology of Kansas coal measures.—Permian of Kansas, Oklahoma and northern Texas.

Behr, Dr. Arno, Pasadena, Cal. *Chemistry.* Palompen, Germany, Aug. 14, 46. Tübingen, 66; Berlin, 67; Ph.D, Heidelberg, 69. Chemist, Matthiessen and Wiechers Sug. Ref. Co, Jersey City, N. J, 74–81; supt, Chicago Sug. Ref. Co, 81–92. Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Organic chemistry, pure and applied to the refining of sugar; the manufacture of starch and glucose from corn.

Behrend, Bernard Arthur, South Norwood, O. *Engineering, Physics.* Germany, May 9, 75. Polytech, Berlin, 94. Asst. elec. eng. and asst. chief electrician, Oerlikon Co, Switzerland, 98; *chief engineer and chief designer, Bullock Elec. Mfg. Co, 00–* Several non-resident lectureships; chief elec. engineer, Allis-Chalmers Co; consulting engineer. F.A.A; Elec. Eng; German and Swiss Elec. Eng. Societies. Alternating current phenomena; induction motor.—High potential researches on alternators and long lines.

Belding, Lyman, Stockton, Cal. *Ornithology.* Hatfield, Mass, June 12, 29. Pub. schools. Fel. Ornith. Union; hon. mem. Cal. Acad; hon. mem. Cooper Ornith. Club. Migration and distribution of Pacific coast birds.

Bell, Dr. A(grippa) N(elson), 337 Clinton St, Brooklyn, N. Y. *Medicine.* Northampton Co, Va, Aug. 3, 20. Tremont Med. Sch, 40–41; Harvard Med. Sch, 40–41; M.D, Jefferson Med. Col, 42. Asst. surgeon, U. S. N, 47–55, past asst, 55; founder and ed, 'The Sanitarian,' 73–04. Commissioner of Quarantines, New York, 70–73; inspector, Nat. Board of Health, 79. Hon. A.M, Trinity (Conn.), 60. Am. Cong. on Tuberculosis (pres, 00, 01, hon. pres, 02); Int. Cong. on Tuberculosis, St. Louis, 04 (hon. pres.). Am. Med. Ass; Pub. Health Ass; Climat. Ass; N. Y. State Med. Soc; hon. mem. Conn. Med. Soc; Kings Co. Med. Soc; cor. mem. London Epidemiol. Soc; Soc. d'Hygiène. Prevention of disease and practical sanitation.

Bell, Dr. A(lexander) Graham, 1331 Connecticut Ave, N. W, Washington, D. C. **Physics.* Edinburgh, Scotland, March 3, 47. London, 68; Ph.D, Würzburg, 82; M.D, Heidelberg, 86. *Engaged in research.* Regent, Smithsonian Inst, 98. Volta Prix, 80; Chevalier Légion d'honneur, 82; LL.D, Harvard, 96; Amherst, 01. Nat. Acad; F.A.A; Nat. Geog. Soc. (pres, 98, 03); Nat. Educ. Ass; Am. Ass. Prom. Teaching Speech to Deaf (pres.); Philos. Soc; Am. Acad; Wash. Acad; Wash. Philos. Soc; Wash. Anthrop. Soc. Electricity; phonetics; speech; aerial navigation, etc; the instruction of the deaf in America.—Aerial navigation; instruction of the deaf; live stock breeding; application of electricity.

Bell, Dr. E(lexious) T(hompson), Columbia, Mo. *Anatomy.* Hatch, Mo, Aug. 31, 80. B.S, Missouri, 01, fellow, 01–02, M.D, 03; Bonn, 05–06. Asst. *anat, Missouri, 02–03, instr, 03–* In charge, Dept. Anat, Missouri, 03–04. Ass. Anat. Histogenesis of the thymus.—Experimental morphology.

Bell, Dr. Louis, 130 Thorndike St, Brookline, Mass. **Physics.* Chester, N. H, Dec. 5, 64. A.B, Dartmouth, 84; fellow, Hopkins, 85–87, Ph.D, 88. Prof. physics, Purdue, 88–89; ed, 'The Electrical World,' 90–92; *consulting elec. engineer, 93–; lecturer elec. power transmission, Mass. Inst. Tech, 95–* Int. Elec. Cong, St. Louis, 04 (sec'y, Sect. D). Elec. Eng. (past manager); fel. Am. Acad. Spectroscopy; alternating current phenomena.—Erecting prism systems; high tension insulators.

Bell, Dr. Robert, Geological Survey, Ottawa, Can. *Geology, Forestry, Ethnology.* Toronto, Can, June 3, 41. M.D, C.M, McGill, 78, Sc.D, 00. *On staff, Can. Geol. Surv, 57–, director, 01–* Prof. nat. science, Queen's (Can.), 63–68; royal commissioner on mineral resources of Ont, 88–89; mem. Govt. Geog. Board, Ottawa. LL.D, Queen's (Can.), 89; hon. Sc.D, Cambridge, 02; hon. chief, Algonquin Indians, 96. F.A.A; Geol. Soc; Geog. Ass; fel. Can. Royal Soc. (pres, Sect. IV, 93); Ottawa Field Nat. Club (pres. 00–02); fel. Royal Soc; London Geol. Soc; cor. mem. Royal Scottish Geog. Soc; companion Imp. Service Order. Geology, zoology, forests and geography of Canada; folk-lore of the aborigines of Canada.—Forests, geography and geographic geology of Canada; Indian and Eskimo legends; extinction of useful animals in modern times.

Bell, Prof. Sanford, 544 Marine St, Boulder, Colo. *Psychology, Pedagogy.* Borden, Ind, April 16, 70. A.B, Indiana, 99, A.M, 00; fellow, Clark, 00–03. Supt. city schools, Aurora, Ind, 95–96; prof. psychol. and pedag, North. Ind. Nor. Sch, 96–98; asst. prof. pedag, Indiana, 98–00; *prof,* Mt. Holyoke, 01–03; *educ, Colorado, 03–* The teacher's influence; the significance of activity in child-life; psychology of love between the sexes; genetic psychology.—Psychology of sex; language of children; sociology of ants; psychology of superstition.

Beman, Prof. W(ooster) W(oodruff), 813 E. Kingsley St, Ann Arbor, Mich. **Mathematics.* Southington, Conn, May 28, 50. A.B, Michigan, 70, A.M, 73. Instr. Greek and math, Kalamazoo, 70–71; *math, Michigan,* 71–74, asst. prof, 74–82, assoc. prof, 82–87, *prof, 87–* F.A.A. (sec'y, A, 90, v. pres, 97); Math. Soc; London Math. Soc; Math. Verein. History of mathematics.

Bement, A(lburto), 215 Dearborn St, Chicago, Ills. *Engineering, Physics, Chemistry.* Appleton, Wis, March 18, 62. Pub. schools. Apprentice, foreman and supt. mfg. machine shop, 80–90; technical newspaper work, 90–93; *consulting engineer, 93–* Chanute medal, West. Soc. Eng, 01, 04. M.A.A; Mech. Eng; Min. Eng; Chem.

Soc; Soc. Chem. Indust; West. Soc. Eng; Verein Ing. Efficiency of steam boilers; temperature measurement by electrical resistance; the recording of furnace conditions.—Chemical and physical structure of coals.

Benedict, Dr. A. L, 156 W. Chipgewa St, Buffalo, N. Y. *Physiology, Archeology.* Buffalo, Aug. 25, 65. Rochester, 83–85; A.B, Michigan, 87; M.D, Buffalo, 88; M.D, Pennsylvania, 89. Instr. therapeut, Med. Dept, Buffalo, 90–96, prof. physiol. and digestive diseases, Dental Dept, 95–01. Supt. ethnol. and archeol, Pan.-Am. Expos, 01. Prize, N. Y. State Med. Soc, 95, 96; gold medal, Am. Med. Ass, 00; hon. A.M, Ohio Wesleyan, 91. Am. Acad. Med. (v. pres, 00); Gastro-Enterol. Ass. (mem. Council); N. Y. State Med. Soc; Buffalo Nat. Sci. and Hist. Societies. Physical diagnosis; physiologic chemistry and physics, as related to digestive organs; transition period of Seneca Indians; archeology of Niagara frontier; mound-builders.

Benedict, Prof. Francis Gano, Middletown, Conn. **Chemistry.* Milwaukee, Wis, Oct. 3, 70. A.B, Harvard, 93, A.M, 94; Ph.D, Heidelberg, 95. Instr. *chem,* Mass. Col. Pharmacy, 93–94; *Wesleyan,* 96–01, *assoc. prof, 01–* Chemist, Storrs Agr. Exp. Sta, 96–01. Chem. Soc; Physiol. Soc; Soc. Exp. Biol. and Med; Chem. Gesell. Analytical methods; metabolism in man; temperature of the human body.—Temperature of the body; researches with a respiration calorimeter.

Benedict, Prof. H(arris) M(iller), University of Cincinnati, Cincinnati, O. *Biology.* Buda, Ills, Dec. 8, 73. A.B, Doane, 94; B.S, Nebraska, 96, A.M, 97. Instr. zool, Nebraska, 96–97; head, Biol. Dept, High Sch, Lincoln, Nebr, 97–98; Omaha, 99–00; asst. *biol, Cincinnati,* 01–02, *asst. prof, 03–* M.A.A; Ohio Acad. Proteocephalus; regeneration.—Regeneration.

Benedict, Dr. H(arry) Y(andell), 2525 University Ave, Austin, Tex. *Mathematics.* Louisville, Ky, Nov. 14, 69. Fellow, B.S, Texas, 92, A.M, 93; Ph.D, Harvard, 98. Tutor math, *Texas,* 93, instr, 99, adj. prof. *math. and astron,* 99–02, *assoc. prof, 02–* Instr. math. and astron, Vanderbilt, 99. Math. Soc; Tex. Acad. (treas.).

Benjamin, Prof. C(harles) H(enry), 89 Adelbert St, Cleveland, O. *Mechanical engineering.* Patten, Me, Aug. 29, 56. M.E, Maine, 81. Instr. *mech. eng,* Maine, 80–83, *prof,* 83–86; *Case, 89–* Supervising city engineer, Cleveland, 00–02. Mech. Eng; Eng. Educ; Cleveland Eng. Club (pres, 01). Bursting of cast iron fly-wheels and cylinders; stresses in pulley arms.—Strength of gear teeth; friction of steam packings; bursting of full sized fly-wheels.

Benjamin, Dr. Marcus, 1703 Q St, N. W, Washington, D. C. *Chemistry, Technology.* San Francisco, Cal, Jan. 17, 57. Ph.B, Columbia, 78. Chemist, U. S. Lab, Appraiser's Store, N. Y. City, 83–85; lecturer chem, N. Y. Woman's Med. Col, 84–86; *ed, U. S. Nat. Mus, 96–* Mem. Jury of Awards, Columbian, Nashville, Omaha, Pan-Am, Charleston and La. Purchase Expositions, ed. contributor, Appleton's Cyclopedias, 'Int. Cyclopedia,' 'Int. Yearbook,' etc; mem. U. S. Assay Commission, 96, 00, 04. Hon. A.M, Lafayette, 88; Ph.D, Nashville, 89; Sc.D, Western Univ. of Pa, 05. Int. Cong. Arts and Science, St. Louis, 04 (sec'y, Sect. Indust. Chem.). F.A.A. (sec'y, I, 98, v. pres, 99, 00); Chem. Soc; Soc. Chem. Indust; fel. London Chem. Soc.

Benjamin, Rev. Raphael, Hotel St. George, Brooklyn, N. Y. *Mental and moral science.* London, England, June 19, 46. A.B, London, 71; A.M, Melbourne, 79. *Rabbi,* Melbourne, Australia, 74–81; Cincinnati, 82–88; New York, 89–02; *Brooklyn, 02–* F.A.A; Nat. Geog. Soc; Cincinnati Soc. Nat. Hist. (director and assoc. ed, 84–88). The connection between faculties of the mind and particular parts of the nervous system.

Benneson, Miss Cora A(gnes), 4 Mason St, Cambridge, Mass. *History, Science of government.* Quincy, Ills, June 10, 51. A.B, Michigan, 78, LL.B, 80, A.M, 83; fellow, Bryn Mawr, 87–88. Mem. bar, Mich. and Ills, 80; Mass, 94. F.A.A. (sec'y, I, 00); Am. Hist. Ass; Folk-lore Soc. Republican constitutions; executive discretion in the United States; federal guaranties for maintaining republican government in the states.—Power of United States courts over acts of Congress.

Bennett, Prof. A(lfred) A(llen), Ames, Ia. *Chemistry.* Milford, N. H, Nov. 30, 50. B.S, Michigan, 77; M.S, Iowa State, 87. Teacher science, Mich. Mil. Acad, 78–80; *prof.* physics and chem, Iowa Wesleyan, 81–93; Chicago, 83–85; *chem, Iowa State, 85–* Chem. Soc. Chemistry.—Petroleum.

Bennett, Edward, Amber Club, Pittsburg, Pa. *Electrical engineering.* Pittsburg, Oct. 26, 76. E.E, Western Univ. of Pa, 97. Engineer, Nernst Lamp Co, 99–02, electrician, 03–04; *consulting engineer, 04–* With Westinghouse Elec. and Mfg. Co. M.A.A; Elec. Eng; Electrochem. Soc. Nernst lamp development; lightning arresters.

Bennett, Prof. W(illiam) Z(ebina), 163 Beall Ave, Wooster, O. *Chemistry.* Montpelier, Vt, Feb. 25, 56. A.B, Harvard, 78, A.M, 81, Ph.D, 83; Berlin, 88. Asst. chem, Harvard, 78–80; master science, DeVeaux, 80; adj. prof, *Wooster,* 80–83, *prof,* 83–86, chem. and physics, 86–02, *chem, 02–* F.A.A; Chem. Soc; Cleveland Chem. Soc. Mucochloric acid; di-chlor-acrylic acid; tetra-brom-propiolic acid; methods for determining nitrites in water.

Bensley, Dr. B(enjamin) A(rthur), University of Toronto, Toronto, Can. *Zoology, Anatomy.* Hamilton, Can, Nov. 5, 75. A.B, Toronto, 96; Senff fellow, Columbia, 99–00, Ph.D, 02. *Lecturer zool, Toronto, 02–* Asst. director, Biol. Lab, Georgian Bay, Lake Huron. Paleont. Soc; Micros. Soc. General mammalian and marsupial evolution.

Bensley, Prof. R(obert) R(ussell), 5477 Ellis Ave, Chicago, Ills. **Anatomy.* Hamilton, Can, Nov. 13, 67. A.B, Toronto, 89, M.B, 92. Asst. demonstrator biol, Toronto, 92–99, demonstrator, 99–01; *asst. prof. anat, Chicago, 01–* Soc. Nat; Ass. Anat; British Ass. The gastric glands of mammals; esophagal glands of Urodela; microchemistry.—The glands of Brunner; structure of the human stomach.

Bentley, Prof. I(saac) Madison, Cascadilla Place, Ithaca, N. Y. *Psychology.* Clinton, Ia, June 18, 70. B.S, Nebraska, 95; Ph.D, Cornell, 98. Asst. *psychol, Cornell,* 97–98, instr, 98–02, *asst. prof, 02–* M.A.A; Psychol. Ass; Philos. Ass. The memory image; mental synthesis.—Experimental esthetics.

Bentley, Dr. William B(urdelle), Morris Ave, Athens, O. *Chemistry.* Maple Valley, N. Y, Aug. 8, 66. A.B, Harvard, 89, A.M, 90, Ph.D, 98. Asst. chem, Harvard, 90–91; adj. prof. chem. and physics, Arkansas, 91–94, assoc. prof, 94–00; *prof. chem, Ohio (Athens), 00–* Asst. chem, U. S. Torpedo Sta, Newport, R. I, 90. F.A.A; hon. fel. London Soc. Biol. Chem. Organic chemistry.

Benton, Frank, 925 N St, N. W, Washington, D. C. *Entomology, Apiculture.* Coldwater, Mich, July 5, 52. Mich. Agr. Col, 70–71; Tennessee, 75–76; B.S, Mich. Agr. Col, 79; Athens, 83; Munich, 84–85; M.S, Mich. Agr. Col, 86. Teacher, pub. schools, Mich, 70–73; instr. apiculture, Tennessee, 75–76; principal pub. schools, Mich, 77–78; instr. French and math, Ger.-Am. Sem, Detroit, Mich, 78–79; French, Mich. Agr. Col, 79; investigated honey-bees of Europe, Africa and Asia, 80–91; special agent and investigator, *U. S. Dept. Agr,* 91–99, asst. entomologist, 99–01, *in charge apiarian investigations, 01–* Prussian state medal, Frankfort-on-Main, 83; silver medal with diploma, Paris Expos, 00; two diplomas, Pan.-Am. Expos, 01; numerous first premiums. M.A.A; Ass. Econ. Entom; Nat. Geog. Soc; Wash. Entom. Soc. (cor. sec'y, 94–05); Nat. Bee Keepers' Ass; N. Am. Bee Keepers' Ass. (sec'y, 93–94); Mich. State Bee Keepers' Ass. (sec'y, 73–74); hon. mem. numerous American and foreign apiarian societies. History and habits of bees; apiarian science.—The production of superior types of honey-bees by crossing varieties; native honey-bees of the far East; the mating of queen bees in confinement; devices for wintering and manipulation of bees.

Benton, Dr. J(ohn) R(obert), 1103 13th St, Washington, D. C. *Physics.* Concord, N. H, June 6, 76. B.S, Trinity (Conn.), 97, A.B, 98; Ph.D, Göttingen, 00. Asst. physics and astron, Trinity (Conn.), 97–98; instr. math, Princeton, 00–01; asst. physics, Cornell, 01–02; *experimenter, Edison Lab, 02–* M.A.A; Physical Soc; Astron. and Astrophys. Soc; Math. Soc. Mechanical properties of matter, especially elasticity and hydrodynamics.—Elasticity.

Bentz, Dr. Charles A, 84 Orange St, Buffalo, N. Y. *Bacteriology.* Buffalo, Feb. 20, 79. M.D, Buffalo, 02. *Lecturer* histol. and bacter, *Buffalo,* 02–04, *bacter, 04–* Asst. pathologist, Erie Co. Hosp; Buffalo Gen. Hosp. Ass. Path. and Bact; Buffalo Acad. Med. Trichinosis; rhinophyma; tetanus; arthritis deformans.—Avian tuberculosis.

Benzenberg, George Henry, 255 Greenbush St, Milwaukee, Wis. *Engineering.* New York, N. Y, May 31, 47. C.E, Michigan, 67. Asst, U. S. Lake Surv, 66–69; C. M. and St. P. R. R. and M. and U.R.R, 69–73; asst. city engineer, Milwaukee, 73–82, city engineer, 82–99; *consulting engineer, 95–* Consulting engineer for cities throughout the U. S. Civil Eng. (v. pres, 01–03); Munic. Eng. (pres, 96); Am. Water Works Ass. (pres, 93); New Eng. Water Works Ass.

Berg, Walter G(ilman), 261 W. 52d St, New York, N. Y. *Civil engineering.* New York, Jan. 12, 58. Ten years in schools of Paris and Stuttgart; C.E, Stuttgart, 78. Draftsman and shop inspector, Delaware Bridge Co, N. Y, 78–79; bridge engineer and engineer in charge, Richmond and Alleghany R. R, 79–82; principal asst. engineer, E. Tenn, Va. and Ga. R. R, 82–83; asst. engineer, principal asst. engineer and engineer maintenance of way, *Lehigh Valley R. R,* 83–00, *chief engineer, 00–* Supt. Lehigh Valley Creosoting Works. Civil Eng; Eng. Educ; Am. R. R. Eng. and Maintenance of Way Ass; Am. Roadmasters and M. of W. Ass; Ass. R. R. Supts. Bridges and Buildings (pres.). Technical, railroad, educational and general engineering.—Design of railroad shops; economical location of railroads; tonnage rating of railroad trains; classification of railroad accounts; general railroading as a science and profession.

Berger, Prof. E(dward) W(illiam), Berea, O. *Zoology.* Middleburg, O, Nov. 29, 69. A.B, German Wallace, 91; Ph.B, Baldwin, 94; Ph.D, Hopkins, 99. Prof. science, Baldwin, 99–01; Lincoln High Sch, Cleveland, 01–02. Ohio Acad. Physiology and histology of Cubomedusae.—Pseudoscorpionidae; habits of Hyphantria cunea.

Bergey, Dr. D(avid) H(endricks), 34th and Locust Sts, Philadelphia, Pa. *Bacteriology, Hygiene.* Montgomery Co, Pa, Dec. 27, 60. M.D, B.S, Pennsylvania, 84; A.M, Ills. Wesleyan, 94; Scott fellow, Pennsylvania, 94–95. Instr. hygiene, *Pennsylvania,* 95–96, first asst, Lab. Hygiene, 96–03, *asst. prof. bacter, 03–* F.A.A; Soc. Nat; Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Climat. Ass; Nat. Educ. Ass. Composition of expired air; pseudo-diphtheria bacilli; hemolysis and bacteriology; influence of alcoholism upon hemolysis.—Etiology of variola, vaccinia, varicella and rubeola; influence of pasteurization on the bacterial content and the keeping qualities of milk.

Bergström, Prof. John A(ndrew), 137 Forest Place, Bloomington, Ind. *Psychology, Pedagogy.* Blidsberg, Sweden, Oct. 28, 67. A.B, Wesleyan, 90; Ph.D, Clark, 94. Teacher, private sch,

Middletown, Conn, 90–91; asst. prof. psychol. and pedag, *Indiana*, 94–96, assoc. prof, 96–02, *prof. pedag. and director, Psychol. Lab, 02–* F.A.A; Psychol. Ass. Interference of associations; conditions of mental activity; ergographic experimentation; psychological apparatus.—Ergographic studies; sleep; memory; errors in observation; problems in school hygiene, child-study and comparative pedagogy.

Berkeley, Dr. W(illia)m N, San Juan, P. R. *Chemistry.* Aldie, Va, Sept. 24, 67. Virginia, 87–88, 91–92; Ph.D, Hopkins, 99. Chemist, Dora Furnace Co, Va, 92–93; prof. chem, St. John's (Md.), 93–96; instr. science, Model and Training Sch, San Juan, P. R, 99; *chemist, Superior Board of Health, P. R, 00–* Instr, Diechman Sch, Baltimore, 98. M.A.A; Chem. Soc; Chem. Gesell. Rate of reduction of isomeric nitrobenzoic acids; food value of bananas.

Berkey, Dr. Charles P(eter), Columbia University, New York, N. Y. *Mineralogy, Petrology, Geology.* Goshen, Ind, March 25, 67. B.S, Minnesota, 92, M.S, 93, Ph.D, 97. Instr. miner, Minnesota, 93–03; *tutor geol, Columbia, 03–* Asst, Minn. and Wis. Geol. Surveys. F.A.A; Geol. Soc; Minn. Acad. (cor. sec'y, 97–03). The geology and mineralogy of certain Keweenawan and Cambrian areas in Minnesota and Wisconsin; clays and other mineral resources of Minnesota and North Dakota; stream erosion on massive igneous rocks; interpretation and chronology of certain laminated glacial deposits.—Geology of the Tarrytown (N. Y.) quadrangle.

Berliner, Emile, 1458 Columbia Road, Washington, D. C. *Electricity, Acoustics.* Hanover, Germany, May 20, 51. German pub. schools. Chief instrument inspector, Bell Telephone Co, 78–81. John Scott medal, Franklin Inst. The telephone transmitter; the gramophone.

Berry, Edward W, Maryland Geological Survey, Johns Hopkins University, Baltimore, Md. *Botany.* Newark, N. J, Feb. 10, 75. High Sch. Walker prize, Boston Soc. Nat. Hist, 01. F.A.A; N. Y. Acad; Torrey Bot. Club (sec'y). Ancient floras.—Flora of the Cretaceous period; phylogeny of sassafras and the Magnoliaceae, Comptonia, Aralia, etc.

Bessey, Prof. Charles E(dwin), 1507 R St, Lincoln, Nebr. **Botany.* Milton, O, May 21, 45. B.S, Mich. Agr. Col, 69, M.S, 72; Harvard, 72–73, 75–76; Ph.D, Iowa, 79. *Prof. bot,* Iowa State, 70–84; *Nebraska, 84–; state botanist, Nebr, 93–* Bot. ed, 'Am. Naturalist,' 80–97; 'Johnson's Cyclopedia,' 93–; assoc. ed, 'Science,' 97– Medal, Acad. Int. Géog. Bot, 99; LL.D, Iowa (Grinnell), 98. F.A.A. (sec'y, F, 84, v. pres, 93, 94, 02); Bot. Soc. (pres, 96–97); Micros. Soc. (pres, 01–02); Soc. Prom. Agr. Sci. (pres, 89–91); Forestry Ass; Nat. Geog. Soc; Wild Flower Preservation Soc. (pres, 03–04); Bot. Cent. States; Torrey Bot. Club; Nebr. Acad. (pres, 91–94); Iowa Acad. (pres, 75–84); Wash. Acad; Davenport Acad; Int. Ass. Bot; Acad. Int. Géog. Bot. The forests, grasses and fungi of the great plains and conditions which govern their distribution.—The relationship of the natural plant families; the bull pine; plant migration.

Bessey, Dr. Ernst A(thearn), Subtropical Laboratory, Miami, Fla. *Vegetable pathology and physiology.* Ames, Ia, Feb. 20, 77. A.B, Nebraska, 96, B.S, 97, A.M, 98; Ph.D, Halle, 04. Asst. veg. pathologist, *U. S. Dept. Agr,* 99–01, asst. in charge seed and plant introduction, 01–02, veg. pathologist, 04–06, *pathologist in charge, Subtropical Lab, Miami, Fla, 06–* Lab. asst. bot, Colorado Summer Sch, 94, 95, 96; field collector, N. Y. Bot. Garden, 97; Div. Agrost, U. S. Dept. Agr, 98, agr. explorer, 02, 03, 04. F.A.A; (sec'y, G, 01); Soc. Plant Morph. and Physiol; Wash. Bot. Soc; Bot. Gesell.

Best, Dr. G(eorge) N(ewton), Rosemont, N. J. *Bryology.* Round Valley, N. J, Oct. 16, 46. Lafayette, 73; M.D, Pennsylvania, 75. M.A.A; Torrey Bot. Club; Sullivant Moss Chapter (pres, 01–02). Musci; Leskeaceae.

Bethel, Prof. Ellsworth, 270 S. Marion St, Denver, Colo. *Botany.* Smyrna, O, June 20, 63. B.S, U. S. Grant Univ, 86. *Instr. biol, High Sch, Denver, 90–* Hon. A.M, Denver, 05. Colo. Sci. Soc; Colo. Acad. (director, Dept. Bot, pres.); Colo. Hist. and Nat. Hist. Soc. Fungi; Algae.

Bethune, Rev. C(harles) J(ames) S(tewart), 500 Dufferin Ave, London, Can. *Entomology.* West Flamboro, Ont, Aug. 11, 38. Upper Canada, 55–56; A.B, Trinity (Can.), 59, A.M, 62. Ed, 'Canadian Entomologist,' 68–73; head master, Trinity Col. Sch, Port Hope, Ont, 70–99; *ed, 'Canadian Entomologist,' 85–* D.C.L, Trinity (Can.), 83. F.A.A; Entom. Soc; Ass. Econ. Entom; Wash. Entom. Soc; Buffalo Soc. Nat. Sci; fel. Can. Royal Soc. (pres, Sect. IV, 00); Can. Inst; Ont. Entom. Soc. (pres, curator and librarian, 04–05); Ottawa Field Nat. Club; N. S. Inst. Economic entomology; Canadian Lepidoptera.—Life histories of injurious insects.

Beutenmüller, William, 55 Kelly St, Bronx, New York, N. Y. **Entomology.* Hoboken, N. J, March 31, 64. Pub. and private schools, N. Y. City. *Curator, Dept. Entom, Am. Mus. Nat. Hist, 89–* N. Y. Entom. Soc. (pres, 00–01, ed, 'Jour.' (Vols. I.–XI.); Torrey Bot. Club. Lepidoptera; Coleoptera; gall-insects; bibliography of American entomology; Sesiidae.—The genus Catocala; insects of the Black Mountains, North Carolina; Lepidoptera found within 50 miles of New York City.

Bevan, Dr. Arthur Dean, 2917 Michigan Ave, Chicago, Ills. *Surgery, Anatomy.* Chicago, Aug. 6, 61. Sheffield Sci. Sch, Yale, 78–79; M.D, Rush Med. Col, 83; Leipzig, 92–93. Surgeon, U. S. Marine Hosp. Service, 83–88; prof. anat, Rush Med. Col, 88–98, assoc. prof. *surg,* 98–02, *prof, Rush Med. Col. and Chicago, 02–* Surgeon, Presbyterian Hosp, 94– Prize, Chicago Med. Soc, 98. Ass. Anat; Surg. Ass; Am. Med. Ass; Chicago Med. Soc. (pres,

98). Surgical anatomy of liver and bile tracts; surgical treatment of gall-stones, of stomach and of undescended testis; iodid of potash in blastomycosis; traumatic neuroses.—The effect of X-rays on malignant tumors.

Bevier, Prof. Isabel, University of Illinois, Urbana, Ills. *Household science.* Plymouth, O. Ph.B, Wooster, 85, Ph.M, 88; Summer Sch, Harvard, 88; special student, Prof. Atwater's Lab, 94; Mass. Inst. Tech, 98. Principal, High Sch, Shelby, O, 85–87; Mt. Vernon, O, 87–88; *prof.* nat. science, Pa. Col. for Women, 88–97; chem, Lake Erie Col, Painesville, O, 98–99; *household science and head of dept, Illinois, 00–* Asst. nutrition investigations, U. S. Dept. Agr, 94–99; mem. Jury of Awards, Columbian Expos, 93. M.A.A; Chem. Soc; Pub. Health Ass. Chemistry of food; science of nurtition.—Temperatures in the cooking of meats.

Beyer, Prof. Geo(rge) E(ugene), 1457 Calhoun St, New Orleans, La. *Biology.* Meissen, Saxony, Sept. 9, 61. Dresden, 73–79; Berlin, 79–80; special studies under Brehm, Staudinger and Engelhardt. Instr. nat. hist, *Tulane,* 95–97, asst. prof. *biol,* 97–02, *prof, 02–* Asst. surgeon, U. S. Marine Hosp. Service, Vera Cruz, Mex; special inspector, U. S. Dept. Agr. M.A.A; fel. Ornith. Union; Micros. Soc; Pub. Health Ass; Audubon Soc. (mem. Advisory Council); Bird-lore Soc. (mem. Advisory Council); La. Nat. Soc. (pres.); hon. mem. La. Med. Soc; hon. mem. Orleans Parish Med. Soc. Birds; reptiles; archeology of Louisiana; mosquitoes and their relation to disease.—The yellow fever organism.

Beyer, Dr. Henry G(ustav), U. S. N, Washington, D. C. **Physiology, Hygiene.* Hohenstein-Ernstthal, Germany, Oct. 28, 50. M.D, Bellevue Hosp. Med. Col, 76; M.R.C.S, London, 81; hon. fellow, Hopkins, 86–87, Ph.D, 87. Pharmacist, 67–73; asst. surgeon, *U. S. N,* 76–80, past asst. surgeon, 80–93, *surgeon, 93–* Curator, U. S. Nat. Mus, 84–87; instr. and lecturer physiol. and hygiene, U. S. Naval Acad, 91–96; lecturer hygiene, U. S. Naval War Col, Newport, 99–04; prof, Naval Med. Sch. Delegate for U. S. Navy to British Med. Ass, Montreal, 87. Physiol. Soc; Ass. Path. and Bact. The structure of Lingula pyramidata; the nervous system of Porpita; pharmacology; growth of U. S. naval cadets.—Ventilation and water-supply on ships of the U. S. Navy.

Beyer, Prof. S(amuel) W(alker), Iowa State College, Ames, Ia. *Geology.* Clearfield, Pa, May 15, 65. B.S, Iowa State, 89; Ph.D, Hopkins, 95. Instr. *geol, Iowa State,* 91–95, asst. prof, 95–98, *prof, 98–* Asst, Iowa Geol. Surv, 92–; asst. geologist, U. S. Geol. Surv, 01– F.A.A; Geol. Soc; Min. Eng; Eng. Educ; Wash. Geol. Soc; fel. Iowa Acad. Economic geology; Iowa clays.—Iowa coals and quarry products.

Bibbins, A(rthur Barneveld), 2313 N. Charles St, Baltimore, Md. *Geology.* Hanover, Mich, 60. Ph.B, Albion, 87; Hopkins, 87–89. *Curator and head, Dept. Geol. and Miner, Woman's Col. of Baltimore, 92–* Mem. Md. Geol. Surv; U. S. Geol. Surv. M.A.A; Geol. Soc; Wash. Geol. Soc. The Potomac group.

Bickmore, Prof. Albert S(mith), 130 W. 80th St, New York, N. Y. *Geography, Geology.* St. George, Me, March 1, 39. Dartmouth, 60; studied with Prof. Louis Agassiz, 60–64; B.S, Harvard, 64. Prof. nat. hist, Madison Univ, Hamilton, N. Y, 68–70; supt, *Am. Mus. Nat. Hist,* 69–84, *prof. in charge, Dept. Pub. Instruction, 82–* Hon. Ph.D, Hamilton, 69; LL.D, Colgate, 05. F.A.A; Soc. Nat; Geol. Soc; Am. Geog. Soc; fel. N. Y. Acad; Royal Geog. Soc. Methods of illustrating and teaching geography and natural history.

Bicknell, E(ugene) P(intard), P. O. Box 1698, New York, N. Y. *Botany, Ornithology.* Woodmere, L. I, N. Y. Fel. Ornith. Union; Torrey Bot. Club; Phila. Bot. Club.

Biddle, Dr. H(enry) C(halmers), University of California, Berkeley, Cal. *Chemistry.* Kirkwood, Ills, Oct. 4, 69. A.B, Monmouth, 91; grad, McCormick Theol. Sem, 96; fellow, Chicago, 97–99, Ph.D, 00. Instr. chem. and physics, Monmouth, 91–92; prof, 92–93; *chem,* Maryville, 99–00; asst, Chicago, 00–01; *instr, California, 01–* Chem. Soc; Chem. Gesell. Derivate des Isuretins der Formhydroxamsäure und ihre Beziehungen zur Knallsäure; the reduction of copper by solutions of ferrous salts; the determination of molecular weights.

Biehn, Prof. J(oseph) F(avil), 4023 Wabash Ave, Chicago, Ills. *Bacteriology, Hematology, Pathology.* Chicago, April 1, 78. A.M, Northwestern, 98, M.D, 01; Post-Grad. Med. Sch, 01–02. Instr. bacter. and clin. path, Med. Sch, Northwestern, 99–02; asst. prof. path, Post-Grad. Med. Sch, 01–02; *prof. bacter, Dearborn Med. Sch, 03–; supt. and bacteriologist, Munic. Lab, Chicago, 04–* Bacteriologist, Mercy, Samaritan, Wesley and Post-Grad. Hosp. Training Schools, 01–; prof. clin. path, Am. Med. Col; path. and bacter, Dearborn Post-Grad. Med. Sch. M.A.A; Am. Med. Ass; Ills. Med. Soc; Chicago Path. Comparative value of antiseptics; bacteriology of scarlet fever; methods of preserving vaccine; hemolytic action of streptococci serums; diphtheria; water analysis.—Bacteriology of Chicago milk supply.

Bierring, Dr. Walter L(awrence), Iowa City, Ia. *Pathology, Bacteriology.* Davenport, Ia, July 15, 68. M.D, Iowa, 92; Vienna and Heidelberg, 92; Vienna, 93; Iowa, 94; Pasteur Inst, Paris, 94; Vienna, 96, 01. *Prof.* path. and bacter, *Iowa,* 93–03, *theory and practise of med. and clin. med, 03–* Pathologist, Univ. Hosp, Iowa City; Mercy Hosp, Davenport, Ia. Am. Med. Ass; Iowa Med. Ass; Des Moines Path. Soc; Iowa Acad. Serum therapy; carcinoma; colon bacillus infections; arteriosclerosis; sarcoma; etc.

Bigelow, Dr. Edward F(uller), Stamford, Conn. *Biology.* Colchester, Conn, Jan. 14, 60. Yale, 96–97; Cold Spring Harbor, 99; R. I. Col. Agr, 99; Woods Hole, 00–01; A.M, Ph.D, Taylor,

99. Ed, various scientific magazines, 90–00; *nature and science ed, 'St. Nicholas Magazine,' 00–* Director, Summer Schools of Nature Study, Conn. Assoc. Ornith. Union; Conn. Audubon Soc; Brooklyn Inst; N. Y. Micros. Soc. Germination of seeds and artificial growth of plants with Sach's solution; aquatic microscopy; life histories of insects.—Rabbits; honey-bees.

Bigelow, Prof. Frank H(agar), 1625 Massachusetts Ave, Washington, D. C. *Meteorology, Solar physics.* Concord, Mass, Aug. 28, 51. A.B, Harvard, 73, A.M, 80; B.D, Episcopal Theol. Sch, Cambridge, 80. Asst. astronomer, Cordoba Observatory, 73–76; U. S. Naval Observatory, 77; Cordoba Observatory, 81–83; rector, St. Paul's Church, Natick, Mass, 80–81; prof. math, Racine, 84–89; asst, 'Nautical Almanac' Office, 89–91; *prof. meteorol, U. S. Weather Bur, 91–; solar physics, George Washington, 94–* Mem. U. S. Eclipse Expeditions to W. Afr, 89; S.C, 00; Spain, 05; asst. minister, St. John's Church, Washington, 91– L.H.D, Columbian, 98. F.A.A. (sec'y, A, 91); Astron. and Astrophys. Soc; Ass. Prom. Quaternions; Wash. Acad; Wash. Philos. Soc. (pres, 98); Soc. Cient. Ant. Alz; Meteor. Gesell. Solar physics; terrestrial magnetism; meteorology.—Barometry of the United States; dynamics of the atmosphere; temperature and vapor tension; variations in relation to solar radiation.

Bigelow, Dr. Maurice A(lpheus), Teachers College, Columbia University, New York, N. Y. **Zoology.* Union Co, O, Dec. 8, 72. B.S, Ohio Wesleyan, 94; M.S, Northwestern, 96; Ph.D, Harvard, 01. Instr. biol, Ohio Wesleyan, 94–95; zool, Northwestern, 96–98; *biol, Teachers Col, Columbia,* 99–03, *adj. prof, 03–* F.A.A; Soc. Nat; Soc. Zool; fel. N. Y. Acad. Embryology of lower Crustacea, especially Cirripedia.—Comparative studies of the early development of lower Crustacea.

Bigelow, Dr. R(obert) P(ayne), Massachusetts Institute of Technology, Boston, Mass. **Zoology.* Baldwinsville, N. Y, July 10, 63. B.S, Harvard, 87; Ph.D, Hopkins, 92, Adam T. Bruce fellow, 91–93. *Instr. biol, Mass. Inst. Tech, 93–, librarian, 95–* Ed, 'Am. Naturalist,' 97–98. F.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist. Embryology of Medusae; Crustacea.—Variation in Purpura lapidus; effects of gymnastic training upon physical characters in women; Brachyura of Woods Hole region; Stomatopoda from the Pacific Ocean.

Bigelow, Dr. S(amuel) Lawrence, 1520 Hill St, Ann Arbor, Mich. *Chemistry.* Boston, Mass, Feb. 23, 70. A.B, Harvard, 91; B.S, Mass. Inst. Tech, 95; Ph.D, Leipzig, 98. Instr. gen. chem, *Michigan,* 98–01, asst. prof. and acting director, Lab. Gen. Chem, 01–04, *junior prof,* 04–05, *gen. and physical chem, 05–* F.A.A; Chem. Soc; Electrochem. Soc; Mich. Acad; Chem. Gesell. Catalysis; decomposition point of electrolytes; polarization with low voltages and the residual current; colloidal solutions.

Bigelow, W(illard) D(ell), 2002 Fourth St, N. E, Washington, D. C. **Chemistry.* Gardner, Kas, May 31, 66. A.B, Amherst, 89. Assoc. prof. chem, Oregon, 89–90; instr, high schools, Washington, 91–92; prof, Med. Dept, National Univ, 91–98; asst. chemist, *U. S. Dept. Agr,* 92–01, *chief, Div. of Foods, Bur. Chem, 01–* M.A.A; Chem. Soc. Food chemistry.—The development, ripening and storage of fruit; influence of preservatives on health and digestion; composition and purity of foods.

Biggs, Dr. George P(atten), 133 W. 73d St, New York, N. Y. *Pathology, Bacteriology.* Trumansburg, N. Y, Oct. 26, 67. M.D, Univ. and Bellevue Hosp. Med. Col, 89. Asst. pathologist, N. Y. Hosp, 91–96; *pathologist, Health Dept, N. Y. City, 94–; N. Y. Hosp, 96–;* lecturer special path, Univ. and Bellevue Hosp. Med. Col, 98–03. Prof. physiol, N. Y. Vet. Col, 92–97; lecturer hygiene, Med. Col, Cornell. Ass. Path. and Bact; N. Y. Acad. Med; N. Y. Path. Soc. Pathology and bacteriology.

Biggs, Prof. Hermann M, 5 W. 58th St, New York, N. Y. **Medicine.* Trumansburg, N. Y, Sept. 29, 59. A.B, Cornell, 82; M.D, Univ. and Bellevue Hosp. Med. Col, 83. *Prof. therapeut. and clin. med. and adj. prof. med, Univ. and Bellevue Hosp. Med. Col, 87–; pathologist and director, Bacter. Lab, Health Dept, N. Y. City, 92–, chief med. officer, 02–* Director, Rockefeller Inst. for Med. Research. Ass. Path. and Bact; Am. Physicians; Am. Med. Ass; Nat. Ass. for Study and Prevent. of Tuberculosis (pres.); N. Y. Acad. Med; N. Y. Path. Soc; British Med. Ass; hon. fel. Gt. Britain Sanit. Inst; cor. mem. Int. Bur. for Tuberculosis. Bacteriology; clinical medicine; preventive medicine.

Bigham, Dr. John, 360 Carolina St, Oakland, Pittsburg, Pa. *Philosophy, Psychology.* Pittsburg, Jan. 3, 64. A.B, Amherst, 87, A.M, 90; B.D, Yale, 92; A.M, Harvard, 93, Ph.D, 94. Teacher Greek and Latin, High Sch, Ottawa, Ills, 87–88; prof. Greek, Ripon, 88–89; instr. philos. and director, Psychol. Lab, Michigan, 94–95; prof. philos, De Pauw, 95–98; research work, 98–00; *in business, 00–* Psychol. Ass. Religious psychology; experimental psychology.—Religious psychology; social psychology.

Bigney, Prof. A(ndrew) J(ohnson), Moores Hill, Ind. *Biology.* Moores Hill, Feb. 15, 64. A.B, Moores Hill, 88, A.M, 91; Hopkins, 93–94. *Prof. biol. and geol, Moores Hill,* 88–92, *94–* Asst. biol, Hopkins, 93–94. M.A.A; fel. Ind. Acad. Amoeba; early stages in various eggs.—Nitrifying bacteria.

Billings, Dr. Frank, 35 22d St, Chicago, Ills. **Medicine.* Highland, Wis, April 2, 54. M.D, Northwestern, 81; Vienna, 85–86; M.S, Northwestern, 90. *Prof.* physical diagnosis, Med. Sch, Northwestern, 87–90, practise of med, 90–98; *med, Rush. Med. Col, Chicago, 98–, dean of Faculty, 99–* Ass. Path. and Bact; Am. Physicians; Am. Med. Ass. (pres, 92–93); Ills. Med. Soc; Chicago Med. Soc; Chicago Path.

Soc; Chicago Acad. Pernicious anemia; spinal cord changes in pernicious anemia.—Internal medicine.

Billings, Dr. Frank S(eaver), Sharon, Mass. *Pathology, Anatomy, Bacteriology.* Boston, Mass, Jan. 15, 45. Vet. Sch. and Med. Dept, Berlin, 75–79; special student with Rudolf Virchow, 79–81, 83–85. Pathologist, N. Y. Polyclin. Med. Sch, 85–86; founder and director, Path. Lab, Nebraska, 86–93; prof. gen. path, Chicago Vet. Col, 86–93. Assoc. ed, 'Jour. Comp. Med,' 83–86. Hon. M.D, Medico-Chirurg. Col, Phila. Am. Med. Ass; Boston Gynec. Soc. Infectious diseases.—Ethics.

Billings, Dr. F(rederick) H(oratio), Baton Rouge, La. *Botany.* Chicago, Ills, May 26, 69. A.B, Stanford, 96; A.M, Harvard, 97; Ph.D, Munich, 01. Asst. prof. nat. science, Pomona; *prof. bot, Louisiana.* La. Soc. Nat. Plant embryology.

Billings, Dr. J(ohn) S(haw), 32 E. 31st St, New York, N. Y. **Medicine, Bacteriology, Hygiene, Bibliography.* Switzerland Co, Ind, April 12, 38. A.B, Miami, 57, A.M, 60; M.D, Cincinnati, 60. Asst. surgeon, U. S. A, 61, lieut. col, 94; prof. hygiene, Pennsylvania, 94–96; *director, N. Y. Pub. Library, 96–* In charge vital statistics, Tenth and Eleventh Censuses; curator, Army Med. Mus. and Library. LL.D, Edinburgh, 84; Harvard, 86; Yale, 01; Hopkins, 02; D.C.L, Oxford, 89. Nat. Acad; Am. Acad; Philos. Soc; Int. Statist. Inst. Minute fungi; bacteriology; vital statistics; hygiene; library economy; medical education.—Library work.

Binns, Prof. Charles F(ergus), Alfred, N. Y. *Ceramics.* Worcester, England, Oct. 4, 57. King's scholar, Worcester Cathedral Sch, 68–72. With Royal Porcelain Works, Worcester, England, 72–97; examiner in pottery and porcelain, London, 95–97; principal, Tech. Sch, Trenton, N. J, 98–00; *director, N. Y. State Sch. Clayworking and Ceramics, 00–* Supt, Ceramic Art Co, Trenton, N. J, 99. Silver medal, Paris, 00; hon. M.S, Alfred. Ceramic Soc. (v. pres, 00, pres, 01). Technology of clays, glazes and fuels for potter's use; art and history of pottery.

Bird, H(enry), Rye, N. Y. *Entomology.* Rye, Oct. 12, 69. Pub. schools. *Building business.* N. Y. Entom. Soc. Noctuid moths of North America.—Life histories in the noctuid genus Hydroecia.

Bird, Dr. R(obert) M(ontgomery), Columbia, Mo. *Chemistry.* Petersburg, Va, June 13, 67. A.B, B.S, Hampden-Sidney, 97; Ph.D, Hopkins, 01. Prof. science and math, Frederick Col, Md, 98–99; acting prof. chem, Miss. Agr. and Mech. Col, 01–02; acting prof. agr. chem. and chemist, Agr. Exp. Sta, *Missouri,* 02–03, instr. *agr. chem,* 03–05, *asst. prof, 05–* Chem. Soc. Certain reactions of orthosulphobenzoic acid; toxic agents for treating trees against insect enemies; methods of analysis.

Bird, Prof. William W(arren), 10 Harvard St, Worcester, Mass. *Mechanical engineering.* Somerville, Mass, April 11, 66. B.S, Worcester, 87. Asst. and instr. mech. eng, *Worcester,* 87–91, asst. prof. steam eng, 94–96, *prof. mech. eng, 04–* Mech. Eng; Soc. Testing Materials. Cylinder condensation; power transmission by leather belting.

Birge, Dr. E(dward) A(sahel), 744 Langdon St, Madison, Wis. *Zoology.* Troy, N. Y, Sept. 7, 51. A.B, Williams, 73, A.M, 76; Ph.D, Harvard, 78; Leipzig, 80–81. Instr. nat. hist, *Wisconsin,* 75–79, *prof. zool, 79–, dean, Col. Letters and Science, 91–,* acting pres, 00–03. Commissioner fisheries, Wis, 94–; director, Wis. Geol. and Nat. Hist. Surv, 97– Hon. Sc.D, Western Univ. of Pa, 97; LL.D, Williams, 03. F.A.A; Soc. Nat; Micros. Soc. (pres, 02–03); Wis. Acad. (pres, 90–91). Cladocera; limnology.—Lake temperatures; biology of plankton.

Birkinbine, John, Odd Fellows' Temple, Philadelphia, Pa. *Hydraulics, Mining engineering.* Berks Co, Pa, Nov. 16, 44. Pa. Polytech, 64. *Practising engineer, 64–* Min. Eng. (pres, 91–92); Mech. Eng; Franklin Inst. (pres, 97–); Phila. Eng. Club (pres, 93); hon. mem. Can. Min. Inst. and Foundrymen's Ass. Water powers and water supply; iron and manganese ore and blast furnace metallurgy.

Birnie, Major R(ogers), U. S. A, Ordnance Department, Governor's Island, New York Harbor, N. Y. *Mechanical engineering, Ordnance construction.* Glen Burn Farm, Md, April 5, 51. Grad, U. S. Mil. Acad, 72. Lieut, 13th U. S. Inf, 72–78; lieut, *Ordnance Dept, U. S. A,* 78–86, capt, 86–01, *major, 01–* Inf. service, Camp Douglas, Utah, 72–74; in charge of party, U. S. Geol. Surveys West of 100th Meridian, 74–78; chief ordnance officer, Seventh Army Corps, 98–99; Div. of Cuba, 99; mem. Ordnance Board, 99, pres, 00; Board of Engineers, 02. Wash. Acad; Wash. Philos. Soc. Gun construction.—Ordnance materials; military engineering.

Bishop, Prof. Irving P(rescott), 109 Norwood Ave, Buffalo, N. Y. *Geology.* Burlington Flats, N. Y, Nov. 18, 49. Cornell, 74–75. Principal, New Berlin Acad, 75–76; High Sch, Perry, N. Y, 78–85; Chatham, N. Y, 85–88; *teacher science, State Nor. Sch, Buffalo, N. Y, 88–* Instr. geol. and physics, Chautauqua, 85–04. Hon. A.M, Alfred, 01. Geol. Soc; N. Y. State Science Teachers Ass. (pres, 03). Stratigraphical and economic geology; economic geology of western New York.

Bishop, Dr. Louis B(ennett), 356 Orange St, New Haven, Conn. *Medicine, Ornithology.* Guilford, Conn, June 5, 65. A.B, Yale, 86, M.D, 88. *Head, Dept. Pediat, New Haven Dispensary, 96–; instr. pediat, Med. Sch, Yale, 99–* M.A.A; fel. Ornith. Union; Conn. Acad; N. Y. Linnean Soc; Conn. Med. Soc; New Haven Co. and City Med. Societies; cor. mem. Nuttall Ornith. Club; Cooper (Cal.) Ornith. Club; Wilson Ornith. Club; Wash. Biol. Soc. Ornithology; pediatrics.

Bissell, Prof. G(eorge) W(elton), Ames, Ia. *Mechanical engineering.* Poughkeepsie, N. Y, July 14, 66. M.E, Cornell, 88. Instr. exp.

eng, Cornell, 88–91; *prof. mech. eng, Iowa State, 92–* Managing ed, 'Iowa Eng.' F.A.A; Mech. Eng; Elec. Eng; Eng. Educ; Naval Eng; Iowa Eng. Soc; Iowa Elec. Ass; West. Railway Club; Int. Ass. Testing Materials. Properties of lubricants; steam-engine economics.

Bixby, Lieut. Col. W(illiam) H(erbert), U. S. A, Engineer's Office, Room 510 Federal Building, Chicago, Ills. *Civil and military engineering.* Charlestown, Mass, Dec. 27, 49. Mass. Inst. Tech, 66–67; grad, U. S. Mil. Acad, 73; U. S. A. Postgrad. Eng. Sch, 75; École des Ponts et Chaussées, 81. Asst. prof. eng, U. S. Mil. Acad, 75–79; U. S. engineer to attend French army manœuvers, 80, and to examine and report on iron fortifications in Europe, 81–82; capt, *Corps Engineers, U. S. A*, 83–95, major, 95–04, *lieut. col, 04–* Adjt, U. S. Battalion Engineers, 83–84; in charge various U. S. harbor, river, lighthouse and fortification improvements, 84–; Charleston earthquake eng. duty, 87; lecturer coast defences, U. S. Naval War Col, 87; mem. U. S. Boards on Long-span Suspension Bridges, 93; Steel and Portland Cement, 00. Chevalier Légion d'honneur. F.A.A; Civil Eng; Mech. Eng; Eng. Educ; Soc. Testing Materials; Naval Inst; U. S. Mil. Service Inst; Cavalry Ass; Econ. Ass; Acad. Polit. and Social Sci; Nat. Geog. Soc; Wash. Acad; British Ass; British Inst. Civil Eng; Soc. des Ing. civile de France. Graphical solutions; wind pressures; Portland cement; iron for fortifications; bridges; canals; river, harbor and lighthouse improvements.—River, canal and harbor improvements.

Black, Dr. Homer V(an Valkenburg), 222 Washington St, Atlanta, Ga. *Chemistry.* Americus, Ga, Jan. 16, 77. A.B, Georgia, 96; Ph.D, Hopkins, 00. Adj. prof. *chem, Ga. Sch. Tech,* 00–02, *junior prof, 02–* M.A.A; Chem. Soc. Permanganates of barium, strontium and calcium.—Cotton seed oil; analytical methods.

Black, Otis Fisher, 10 Avon St, Cambridge, Mass. *Chemistry.* Cambridge, March 10, 67. A.B, Harvard, 91; fellow, Northwestern, 92–93, A.M, 93. Asst. *chem, Harvard,* 95–01, *instr, 02–* Chem. Soc. Organic chemistry.—Nitro derivatives of mucobromic acid.

Black, Lieut. Col. W(illiam) M(urray), U. S. A, Engineer's Office, Portland, Me. *Engineering.* Lancaster, Pa, Dec. 8, 55. Franklin and Marshall, 70–73; grad, U. S. Mil. Acad, 77. Promoted through all grades to *lieut. col, Corps Engineers, U. S. A, 77–;* instr. practical mil. eng, U. S. Mil. Acad, 82–86; civil eng, U. S. Eng. Sch, 91–95; commander, Eng. Sch. of Application, 01–03. Engineer commissioner, D. C, 97–98; lieut. col. and chief engineer, U. S. Vols, Spanish-Am. War, and in charge cleaning of Havana, Cuba. Rowland prize, Civil Eng, 93; Fry prize, U. S. Mil. Service Inst, 03. Civil Eng; U. S. Mil. Service Inst; Soc. Am. and For. Wars. Harbors on sandy coasts; improvements in practical military engineering material and methods.—Improvements in methods and materials of military engineering.

Blackader, Dr. A(lexander) D(ougall), 236 Mountain St, Montreal, Can. *Medicine.* Montreal, June 19, 47. A.B, McGill, 70, M.D, C.M, 72; M.R.C.S, London, 74; Vienna, 84; Prague, 88. *Lecturer diseases of children, McGill, 81–, prof. pharmacol. and therapeut, 91–* Assoc. ed, 'Montreal Med. Jour'; physician, Montreal Gen. Hosp; consulting physician, Sick Children and Foundling Hosp. Am. Physicians; Pediat. Soc. (pres, 93); Climat. Ass; Montreal Medico-Chirurg. Soc. (pres, 96). Clinical medicine, especially pediatrics; pharmacology.

Blackman, Dr. M(aulsby) W(illett), Western Reserve Medical College, Cleveland, O. *Zoology.* Lawrence, Kas, March 26, 76. A.B, Kansas, 01, A.M, 02; Austin fellow, Harvard, 04–05, Ph.D, 05. *Instr.* zool. and histol, Kansas, 01–04; *comp. anat. and embryol, Med. Col, Western Reserve, 05–* Ohio Acad. Spermatogenesis of Scolopendra.—Spermatogenesis of Lithobius, Scutigera and Geophilus.

Blackmar, Prof. Frank W(ilson), 1115 Ohio St, Lawrence, Kas. *Sociology, Economics.* West Springfield, Pa, Nov. 3, 54. Ph.B, Pacific, 81, A.M, 84; fellow, Hopkins, 88–89, Ph.D, 89. Prof. math, Pacific, 82–86; instr. hist, Hopkins, 87–88; *prof.* hist. and sociol, *Kansas,* 89–99, *sociol. and econ, 99–, dean, Grad. Sch, 97–* F.A.A; Econ. Ass; Am. Hist. Ass; Anthrop. Ass; Am. Geog. Soc; Kas. Hist. Soc; Kas. Ass. Charities and Correction. Spanish-American institutions; sociology; economic and social problems.—Economic history of the United States.

Blackwell, Dr. H(oward) L(ane), 65 Burnet St, East Orange, N. J. *Physics.* East Orange, July 19, 76. A.B, Harvard, 99, A.M, 00, grad. student, 01–05, Ph.D, 05. Eng. offices, Crocker-Wheeler Co, 00–01; asst. *physics, Harvard,* 01, *research fellow, 05–* Physical Soc; Elec. Eng. Double refraction in an electrostatic field.

Blair, Andrew A(lexander), 406 Locust St, Philadelphia, Pa. **Chemistry.* Woodford Co, Ky, Sept. 20, 48. Grad, U. S. Naval Acad, 66. Midshipman and ensign, U. S. N, 62–69; chief chemist, U. S. Board to test iron, steel and other metals, 75–78; Div. Mining Geol, U. S. Geol. Surv, and Tenth Census, 79–81; *consulting chemist, 82–* F.A.A; Chem. Soc; Soc. Chem. Indust; Min. Eng; Philos. Soc. Chemical analysis of iron and steel, ores and alloys.—Analysis of steel.

Blair, Dr. Viliay Papin, Linmar Building, St. Louis, Mo. *Anatomy.* St. Louis, 71. A.M, Christian Brothers Col, 89; M.D, Washington (St. Louis), 93. Instr, *Med. Dept, Washington (St. Louis),* 94–97, demonstrator anat. and lecturer osteol, 97–99, demonstrator anat. and lecturer descriptive anat, 99–04, *asst. prof. anat, 04–* Ass. Anat.

Blaisdell, Dr. F(rank) E(llsworth), 1800 O'Farrell St, San Francisco, Cal. *Biology.* Pittsfield, N. H, March 13, 62. M.D, Cooper Med. Col, San Francisco, 89. County entomologist, San

Diego, 86; demonstrator anat. and instr. biol. and embryol. and later *asst. prof. anat, Cooper Med. Col, 00–* Pacific Coast Entom. Soc. (sec'y, 00–03). Development of animals; life histories of insects; taxonomy of Coleoptera.—The Tenebrionidae.

Blake, Dr. Clarence John, 226 Marlborough St, Boston, Mass. *Otology.* Boston, Feb. 23, 43. M.D, Harvard, 65; Vienna, 68. Instr. *otol, Harvard Med. Sch,* 71–88, *prof, 88–* Aural surgeon, Mass. Charitable Eye and Ear Infirmary, 71–; ed, 'Am. Jour. Otol,' 79–82. F.A.A; Otol. Soc. (pres, 78); Am. Acad; Physical Educ. Soc. (pres, 98); Social Sci. Ass; Boston Soc. Nat. Hist. Acoustics: telephony; anatomy, physiology and diseases of the ear.—Surgery of the temporal bone; tension anomalies of the sound-transmitting apparatus; physiological acoustics.

Blake, Dr. E(dwin) M(ortimer), University of Arizona, Tucson, Ariz. **Mathematics.* New York, N. Y, June 16, 68. E.M, Columbia, 90, Ph.D, 93. Instr. math, Purdue, 96–98; California, 00–04; *prof. math. and mech, Arizona, 04–* F.A.A; Math. Soc; Soc. math. de France. Kinematics.

Blake, Francis, P. O. Box 10, Auburndale, Mass. **Physics.* Needham, Mass, Dec. 25, 50. High Sch, 64–66. Aid, U. S. Coast Surv, 66–70, subasst, 70–73, asst, 73–78; *director, Am. Telephone and Telegraph Co, 78–* Hon. A.M, Harvard, 02. F.A.A; Elec. Eng; Am. Acad. Coast survey determinations of astronomical latitudes and longitudes; electrical inventions pertaining to telephony.

Blake, J(ames) Henry, 18 Prentiss St, Cambridge, Mass. *Conchology, Zoology.* Boston, Mass, July 8, 45. Lawrence Sci. Sch, Harvard, 67–72. Asst. and curator conchol, Mus. Comp. Zool, Harvard, 72–76. Mem. Hassler Exped, 72; artist, U. S. Fish Commission; asst. paleontologist, U. S. Geol. Surv. Boston Soc. Nat. Hist. Conchology; travels; cetaceans.

Blake, Dr. J(ohn) C(harles), Massachusetts Institute of Technology, Boston, Mass. *Physical chemistry.* Ottumwa, Ia, May 31, 73. B.S, Colorado, 01; Ph.D, Yale, 03. *Research assoc. in physical chem, Mass. Inst. Tech, 03–* Chem. Soc. Colloidal solutions; crystal structure.—Nature of colloidal solutions.

Blake, Dr. Joseph A(ugustus), 601 Madison Ave, New York, N. Y. *Surgery.* San Francisco, Cal, Aug. 31, 64. A.B, Yale, 85, Ph.B, 86; M.D, Columbia, 89. Asst. demonstrator anat, *Columbia,* 91–00, instr. *surg,* 00–03, *prof, 03–* Attending surgeon, St. Luke's Hosp; senior surgeon, Roosevelt Hosp; consulting surgeon, Northwestern Dispensary. F.A.A; Ass. Anat; Surg. Ass; N. Y. Surg. Soc; N. Y. Acad. Med; fel. N. Y. Acad. Anatomy of the thorax and brain; general surgery.

Blake, Prof. Lucien Ira, University of Kansas, Lawrence, Kas. **Physics, Electrical engineering.* Mansfield, Mass, Sept. 12, 54. A.B, Amherst, 77; Tyndall fellow, Harvard, 81–83; Ph.D, Berlin, 84. Asst. math, Adelphi, 84–85; *prof. physics and elec. eng,* Rose, 85–87; *Kansas, 87–* Constructing elec. engineer, U. S. Lighthouse Board, 95–96. M.A.A; Physical Soc; Chem. Soc; Electrochem. Soc. Electrical neutrality of vapors from electrified surfaces; electrification by evaporation; etc.—Electrolysis by electric railways.

Blake, Prof. W(illia)m P(hipps), Mill Rock, New Haven, Conn. (June to Sept.); Tucson, Ariz. (Sept. to June). **Mineralogy, Geology, Metallurgy.* New York, N. Y, June 1, 26. Ph.B, Yale, 52. Chemist, mineralogist and geologist, various companies and surveys, 50–61; mining engineer to Japanese Govt, 61–63; govt. explorations in Alaska, 63; *prof. metal, geol. and mining and director, Sch. of Mines, Arizona, 96–; territorial geologist, Ariz, 98–* Officially connected with N. Y. World's Fair, 53; Paris Expos, 67; Int. Expos, 72–74; Vienna Exhib, 73; Paris Expos, 78; commissioner for Pacific Coast to Paris, 67; ed, 'Commissioner's Reports,' U. S. Dept. State, 68–71; geologist, U. S. Commission to San Domingo, 71; prof. miner. and geol, Col. of Cal. Hon. A.M, Dartmouth; Chevalier Légion d'honneur, 78. Min. Eng; Philos. Soc; fel. London Geol. Soc; cor. mem. Edinburgh Geol. Soc. Mineral deposits and veins; geological structure of Rocky Mountains and Pacific Coast region, especially of Arizona and California.—Mineral deposits and geology of Arizona.

Blaker, Prof. Ernest, 402 Oak Ave, Ithaca, N. Y. *Physics.* Newtown, Pa, Sept. 14, 70. B.S, Kansas, 93; Ph.D, Cornell, 01. Asst. *physics, Cornell,* 98–01, instr, 01–03, *asst. prof, 03–* M.A.A; Physical Soc. Spectrophotometric radiation from carbon at different temperatures; absorption of carbon.—Atmospheric conduction between high tension transmission wires.

Blanchard, Dr. Arthur A(lphonzo), Massachusetts Institute of Technology, Boston, Mass. *Chemistry.* Boston, May 4, 76. B.S, Mass. Inst. Tech, 98, fellow, 00–02; Ph.D, Leipzig, 02. Asst. theoret. chem, Mass. Inst. Tech, 98–00; *instr,* N. H. Col. Agr. and Mech. Arts, 02–03; *inorg. chem, Mass. Inst. Tech, 03–* Chem. Soc; Chem. Gesell. Migration ratios; decomposition of ammonium nitrite; viscosity of solutions in relation to the constitution of dissolved substances.—Viscosities of solutions; solutions of iodin to show the difference in structure between the violet and the brown solutions.

Blanchard, Prof. A(rthur) H(orace), 31 E. George St, Providence, R. I. *Civil engineering.* Providence, Feb. 10, 77. C.E, Brown, 99; A.M, Columbia, 02. Instr. civil eng. and math, *Brown,* 99–01, 02–03, *asst. prof. civil eng, 03–* Draftsman, Am. Bridge Co, summers, 01, 02; asst. engineer, R. I. State Board Pub. Roads, 03– F.A.A; Civil Eng; Eng. Educ; Boston Soc. Civil Eng. Problems in highway engineering.

Blanchard, Frederick, Tyngsboro, Mass. *Entomology.* Lowell, Mass, Aug. 20, 43. Pub. schools. In the employ of Prescott Nat. Bank, Lowell, Mass, 69–91, cashier, 91–00. Coleoptera of the United States.—Coleoptera.

Blanchard, Prof. W(illiam) M(artin), Greencastle, Ind. *Chemistry.* Perquimans Col, N. C, Aug. 25, 74. A.B, Randolph-Macon, 94, A.M, 97; Ph.D, Hopkins, 00. Instr, Randolph-Macon Acad, 94–96, Randolph-Macon, 96–97; Rose, 00–01; *prof. chem, De Pauw, 01–* Chem. Soc; Ind. Acad; Chem. Gesell. Catalytic decomposition of hydrogen peroxid.—Action of hydrogen peroxid on cuprous chlorid.

Blankinship, Prof. J(oseph) W(illiam), 811 Seventh Ave, S. Bozeman, Mont. *Botany.* Glasgow, Ills, Feb. 23, 62. A.B, Drury, 89; California, 90–92; A.B, Harvard, 94, A.M, 96, Ph.D, 98. Prof. science, Hesperian Col, Woodland, Cal, 92–93; asst. *bot,* Harvard, 94–98; *prof, Mont. Col. Agr, and botanist, Mont. Agr. Exp. Sta, 98–* Asst. nat. hist, Drury, 86–88. M.A.A; Mont. Agr. Soc; Mont. Soc. Nat. Sci; Int. Ass. Bot. Specific variation; ecology; economic botany.—Flora, biological zones and plant formations of Montana; laws of specific variation.

Blasdale, Dr. W(alter) C(harles), 2614 Channing Way, Berkeley, Cal. *Chemistry, Botany.* Jericho, N. Y, Jan. 10, 71. B.S, California, 92, Ph.D, 00. Instr. *chem, California,* 95–03, *asst. prof, 03–* Collaborator, Bur. Forestry, U. S. Dept. Agr. M.A.A; Chem. Soc. Foods; plant chemistry; systematic botany.—Chemical compounds from western arborvitae and gold-back fern.

Blatchley, W(illis) S(tanley), 89 State House, Indianapolis, Ind. *Geology.* North Madison, Conn, Oct. 6, 59. A.B, Indiana, 87, A.M, 91. Instr. science, High Sch, Terre Haute, 87–94; *state geologist, Ind, 94–* Asst, Ark. Geol. Surv, 89; mem. Scovell Science Exped. to Mex, 91; asst, U. S. Fish Commission, 90–93. Fel. Ind. Acad. (pres, 03). Economic geology of Indiana; entomology; herpetology.—Economic geology of Indiana; entomology.

Bleile, Prof. A(lbert) M(artin), Ohio State University, Columbus, O. *Physiology.* Columbus, June 26, 55. Starling Med. Col, 73–76; Paris, Leipzig and Vienna, 76–79. Lecturer exp. physiol, Starling Med. Col, 80–91; *prof. physiol, Ohio State, 91–* F.A.A; Micros. Soc. (pres, 00). Blut-zucker; inversion of cane-sugar by gastric juice; cause of death by electric shock; urine in epilepsy.—Chemistry of respiration.

Blichfeldt, Dr. Hans Frederik, Stanford University, Cal. **Mathematics.* Denmark, Jan. 9, 73. A.B, Stanford, 96, A.M, 97; Ph.D, Leipzig, 98. Instr. *math, Stanford,* 98–01, *asst. prof, 01–* Draftsman, Eng. Dept, City and Co. of Whatcom, Wash, 92–94. Math. Soc. Continuous groups.—Analysis of distances; linear homogeneous substitution groups.

Bliss, Dr. Cha(rle)s B(emis), Hampden, Mass. *Psychology.* Triangle, N. Y, Jan. 23, 68. A.B, Yale, 90, Ph.D, 93. Asst, Psychol. Lab, Yale, 93–94; prof. exp. psychol, N. Y. Univ, 94–98; *Congregational clergyman.* M.A.A; Psychol. Ass; fel. N. Y. Acad. Reaction-time and attention.

Bliss, Prof. Collins P, New York University, New York, N. Y. *Mechanical engineering.* Carlisle, Pa, April 28, 66. A.B, Princeton, 88; Ph.B, Columbia, 91; A.M, Princeton, 91; Cornell, 97. Draftsman and engineer, various iron works, 91–97; instr. *mech. eng, N. Y. Univ,* 97–00, *asst. prof, 00–* Director, Testing Lab, N. Y. Univ, and expert on strength of materials; eng. reporter, 'Mail and Express,' 90; construction supt. of various buildings; mem. Commission for Testing Fireproof Wood, New York. Min. Eng; Mech. Eng; Soc. Testing Materials.

Bliss, Prof. Gilbert Ames, Princeton University, Princeton, N. J. *Mathematics.* Chicago, Ills, May 9, 76. B.S, Chicago, 97, M.S, 98, Ph.D, 00; Göttingen, 02–03. Instr. *math,* Minnesota, 00–02; assoc, Chicago, 03–04; *asst. prof,* Missouri, 04–05; *Princeton, 05–* Math. Soc; Math. Verein. Calculus of variations.—Theory of continuous groups.

Bliss, Prof. William J(ulian) A(lbert), 1017 St. Paul St, Baltimore, Md. **Physics.* Washington, D. C, Jan. 22, 67. A.B, Harvard, 88; certificate in elec. eng, Hopkins, 90, Ph.D, 94. Asst. elec. eng, *Hopkins,* 91, lecturer *physics,* 94, lab. asst, 95–98, assoc, 98–01, *collegiate prof, 01–* Physical Soc. Flocculation; forces on submerged particles.

Bloodgood, Dr. Jos(eph) C(olt), 923 N. Charles St, Baltimore, Md. *Surgery.* Milwaukee, Wis, Nov. 1, 66. B.S, Wisconsin, 88; M.D, Pennsylvania, 91. Res. surgeon, Hopkins Hosp, 93–99, *assoc. surg, Hopkins Hosp, and assoc. prof, Hopkins, 99–* M.A.A; Ass. Path. and Bact; fel. Surg. Ass; Soc. Clin. Surg; Am. Med. Ass; Md. Med. and Chirurg. Faculty. Clinical and surgical pathology.—Surgical pathology.

Blumer, Dr. George, 369 Sutter St, San Francisco, Cal. **Medicine, Pathology, Bacteriology.* Darlington, England, March 16, 72. M.D, Cooper Med. Col, San Francisco, 91. Interne, City and Co. Hosp, San Francisco, 92–93; asst. surg, Hopkins Hosp, 93–94, med, 94–95, path, Hopkins, 95–96; director, Bender Hygienic Lab, 96–03, prof. path. and bacter, Albany Med. Col, 02–03; assoc. prof. path, Cooper Med. Col, 03–04; *asst. med, Med. Dept, California, 05–* Pathologist, Albany Hosp, St. Peter's Hosp. and Child's Hosp; director, Bur. of Path. and Bacter, N. Y. State Dept. of Health. Ass. Path. and Bact; Am. Physicians; Soc. Bact; Am. Acad. Med; Pub. Health Ass; Albany Co. Med. Soc. Tuberculosis of aorta and of the stomach; typhoid fever; noma; malignant neoplasms; anthrax; etc.—Thymus tod.

Blunt, Lieut. Col. S(tanhope) E(nglish), U. S. A, Rock Island Arsenal, Rock Island, Ills. *Ordnance, Artillery.* Boston, Mass, Sept. 29, 50. Grad, U. S. Mil. Acad, 72. Lieut, capt, major,

lieut. col, Ordnance Dept, U. S. A, 72– Instr. math, U. S. Mil. Acad, 76–80, ordnance and gunnery, 78–80. Nat. Geog. Soc; Wash. Acad; many mil. societies. Gunnery.

Boas, Prof. Franz, 123 W. 82d St, New York, N. Y. **Anthropology.* Minden, Germany, July 9, 58. Heidelberg; Bonn; Ph.D, Kiel, 81. Asst, Royal Ethnog. Mus, Berlin, 85–86; Privatdocent, Berlin, 85–86; docent, Clark, 89–92; first asst, Dept. Anthrop, Columbian Expos, 92–94; asst. curator, Am. Mus. Nat. Hist, 95–00, curator, 00–05; lecturer *anthrop, Columbia,* 96–00, *prof, 00–* Hon. philologist, Bur. Am. Ethnol. Nat. Acad; F.A.A. (v. pres, 94); Soc. Nat; Anthrop. Ass; fel. Ethnol. Soc; Psychol. Ass; Philos. Soc; cor. mem. Antiq. and Numis. Soc; fel. N. Y. Acad; hon. fel. Anthrop. Inst. of Gt. Britain and Ireland; cor. mem. Anthrop. Societies of Washington, Berlin, Paris, Rome, Stockholm, Vienna and Moscow. Anthropology.

Bôcher, Prof. Maxime, 48 Buckingham St, Cambridge, Mass. **Mathematics.* Boston, Mass, Aug. 28, 67. A.B, Harvard, 88, traveling fellow, 88–91; Ph.D, Göttingen, 91. Instr. *math, Harvard,* 91–94, asst. prof, 94–04, *prof, 04–* Ed, 'Annals of Math,' 99–00, 02– Math. Soc. (v. pres, 02); Am. Acad. The theory of linear differential equations and related questions.—Properties of real solutions of linear differential equations.

Bode, Dr. B(oyd) H(enry), University of Wisconsin, Madison, Wis. *Philosophy.* Ridott, Ills, Oct. 4, 73. A.B, Penn, 96; A.B, Michigan, 97; Ph.D, Cornell, 00. Asst. philos, *Wisconsin,* 00–02, *instr, 02–* Epistemology.

Bodine, Dr. D(onaldson), 513 Wabash Ave, Crawfordsville, Ind. *Geology, Zoology.* Richboro, Pa, Dec. 13, 66. Ph.B, Cornell, 87, fellow, 93–95, Sc.D, 95. Principal, Acad, Gouverneur, N. Y, 88–89, supt. schools, 89–93; *prof. geol. and zool. and dean of the Faculty, Wabash, 95–* F.A.A; Micros. Soc; fel. Ind. Acad. (asst. sec'y, 01–, ed, 'Proc.'). Histology and taxonomy of insects.—Taxonomy of Lepidoptera.

Bogert, Prof. Marston T(aylor), 422 W. 154th St, New York, N. Y. **Chemistry.* Flushing, N. Y, April 18, 68. A.B, Columbia, 90, fellow, Ph.B, 94. Asst. *org. chem, Columbia,* 94–97, tutor, 97, instr, 97–01, adj. prof, 01–04, *prof, 04–* F.A.A. (mem. Gen. Committee, 01); Chem. Soc. (librarian, 98–99, v. chairman, N. Y. Sect, 00–01, v. pres. and chairman, N. Y. Sect, 01–02, delegate, Council of N. Y. Sci. Alliance, 99–02, mem. Board of Editors, 03–, councilor-at-large, 04–, chairman, Sect. Org. Chem, 05); Soc. Chem. Indust. (mem. Exec. Committee, 01–02, v. pres, 02–04); N. Y. State Sci. Teachers Ass; N. Y. Chem. Teachers Club; N. Y. Chemists Club (sec'y, 98–01, trustee, 01–); London Chem. Soc; Chem. Gesell; Chem. Verein; Soc. chim. de Paris. Syntheses of new organic compounds; synthesis of quinazolins and of thioquinazolins; aromatic nitrites; substituted phthalic acids; heterocyclic compounds.

Boggs, Dr. Gilbert H(illhouse), Atlanta, Ga. *Chemistry.* Memphis, Tenn, Oct. 2, 75. B.S, Georgia, 96; Harrison fellow, Pennsylvania, 99–01, Ph.D, 01. Instr. *chem,* Maine, 01–03; adj. prof, *Ga. Tech,* 03–04, *junior prof, 04–* Chem. Soc. Separation of vanadic acid from metals by means of hydrochloric acid gas; the occurrence of molybdenum in the mineral endlichite.

Bogue, Prof. E(rnest) E(verett), Agricultural College, Mich. *Forestry.* Orwell, O, Jan. 12, 64. B.S, New Lyme Inst, 88; B.S, Ohio State, 94, M.S, 96; A.M, Harvard, 02. Prof. bot. and entom, Okla. Agr. and Mech. Col, and botanist and entomologist, Exp. Sta, 96–00; *prof. forestry, Mich. Agr. Col, 02–* Soc. Nat; Forestry Ass; Mich. Acad; Columbus Hort. Soc. Periodicity of the growth of trees.

Bolles, Dr. M(yrick) N(athaniel), Columbia University, New York, N. Y. *Metallurgy.* Winnesheik Co, Ia, 77. B.S, S. Dak. Agr. Col, 98; Ph.D, Columbia, 03. Instr. mech. and physics, S. Dak. School of Mines, 98–00; *tutor metal, Columbia, 03–* Chemist, Golden Reward Consolidated Gold Mining and Milling Co, Deadwood, S. Dak, 00–01. Chem. Soc; Min. Eng. Metallographic constitution of metallic sulphids; significance of copper oxid in alloys of copper, sulphur and bismuth.—Temperature limits of technical operations; alloy steels as influenced by the vanadium group.

Bolley, Prof. Henry L, Agricultural College, N. Dak. **Botany, Bacteriology.* Holman, Ind, Feb. 1, 65. B.S, Purdue, 88, M.S, 89. Instr. biol, Purdue, 89–90; *prof. bot. and zool, N. Dak. Agr. Col, and botanist, Agr. Exp. Sta, 90–* In charge, Office of Exp. Sta. Lab, Columbian Expos, 93. F.A.A; Soc. Prom. Agr. Sci; Bot. Cent. States. Bacteriology of milk, water and soil; phytopathology, including smuts of cereal grains; soil-infesting fungi parasitic upon culture plants; breeding for disease resistance.

Bolton, Dr. B(enjamin) Meade, U. S. Department of Agriculture, Washington, D. C. **Bacteriology.* Richmond, Va, April 7, 57. M.D, Virginia, 79; South Carolina, 82–83; Heidelberg, 83–84; Göttingen, 84–86; Berlin, 86. Asst. and later fellow by courtesy and assoc. bacter, Hopkins, 86–88, 91–93; prof. hygiene and bacter, South Carolina, 88–89; director, Lab. of Bacter, Hoagland Lab, Brooklyn, 89–91; pathologist, Ohio Hosp. for Epileptics, 93; director, Lab. of Hygiene, Bur. of Health, Phila, 93–95; prof. path. and bacter, Missouri, 95–96; path, Marion-Sims-Beaumont Col. of Med, St. Louis, 01–04; *expert, Bur. Animal Indust, U. S. Dept. Agr, 04–* Am. Physicians; St. Louis Acad. Behavior of bacteria in water; action of metal and metallic salts and of electricity on the growth of bacteria; antitoxin in the blood of horses; occurrence of tetanus toxin in the blood of infected horses.

Bolton, Prof. Frederick E(lmer), 1019 College St, Iowa City, Ia. *Education, Psychology.* Tomah,

Wis, May 9, 66. B.S, Wisconsin, 93, M.S, 96; Leipzig, 96–97; hon. fellow, Clark, 97–98, Ph.D, 98. *Prof.* psychol. and pedag, State Nor. Sch, Milwaukee, 98–00; *science and art of educ, Iowa, 00–* Teacher, rural schools, 85–87; principal schools, Tunnel City, Wis, 87–88; High Sch, Fairchild, Wis, 90–91; Park Sch, Kaukauna, Wis; state inst. conductor, Wis, 93–00; lecturer pedag, Summer Sch, Wisconsin, 99. Nat. Educ. Ass; Soc. Sci. Educ; West. Philos. Ass; Wis. State Teachers' Ass. (pres. Nor. Dept, 99–), and Child Study Soc. (sec'y and treas, 99); Iowa State Teachers' Ass. and Child Study Soc. (pres, 00–); Wis. Educ. Round Table (sec'y and treas, 00). Genetic psychology and science of education.—Dramatic instinct; genetic study of morality applied to problems in education; individual differences.

Bolton, Reginald Pelham, 638 W. 158th St, New York, N. Y. *Mechanical engineering.* London, England, Oct. 5, 56. Private instruction. Apprenticeship, England, 73–78; asst. engineer, Edgemore Iron Works, 79; manager, Appleby Brothers Eng. Works, England, 85; *consulting and expert engineer, 85–* Designer equipment, Bowling Green offices, Grand Central Station, Ansonia Hotel, N. Y. City, etc. Telford gold medal and Telford premium, Civil Eng, 01. Mech. Eng; Civil Eng; Civil and Mech. Eng. Soc. (pres.); Soc. Heat. and Vent. Eng; Naval Eng; Folk-lore Soc; N. Y. Hist. Soc; assoc. mem. British Inst. Civil Eng. Adaptation of mechanical apparatus to needs of modern buildings, especially the development of piping for high buildings.—Economical improvements between boiler and engine; history of upper Manhattan Island, New York.

Bolton, Prof. Thaddeus L(incoln), University of Nebraska, Lincoln, Nebr. **Psychology, Philosophy.* Sonora, Ills, July 27, 65. A.B, Michigan, 89; Ph.D, Clark, 94. Teacher, Nor. Sch, Worcester, Mass, 93–96; San Jose, Cal, 96–97; prof. philos, Washington (Seattle), 97–98; asst. prof, *Nebraska,* 99–04, *prof. psychol, 04–* Lecturer, Univ. Extension Soc, Pennsylvania. F.A.A; West. Philos. Ass. Rhythm; growth of memory; knowledge from standpoint of association; fatigue; space sense of skin; reliability of the ergograph; relation between motor power and intelligence.—The influence of humidity and temperature upon the capacity for mental work; accuracy of some acquired reflexes; recognition and unconscious remembering.

Boltwood, Dr. Bertram B(orden), 139 Orange St, New Haven, Conn. *Chemistry.* Amherst, Mass, July 27, 70. Ph.B, Yale, 92; Munich, 92–94; Leipzig, 96; Ph.D, Yale, 97. Lab. asst. chem, Sheffield Sci. Sch, Yale, 94–96, instr. physical chem, 96–00; *research chemist, 00–* Chem. Soc; Chem. Gesell; Bunsen Gesell. Organic and inorganic chlorids; radium and radio-activity.

Bolza, Prof. O(skar), 5810 Woodlawn Ave, Chicago, Ills. **Mathematics.* Bergzabern, Germany, May 12, 57. Berlin, 75–76; Heidelberg, 77; Strasburg, 78; Göttingen, 80; Berlin, 81–82; Ph.D, Göttingen, 86. Reader *math,* Hopkins, 88–89; assoc, Clark, 89–92; assoc. prof, *Chicago,* 93–94, *prof, 94–* Math. Soc. (v. pres, 04); Math. Verein. Hyperelliptic functions; calculus of variations.

Bond, Dr. Charles S, 112 N. Tenth St, Richmond, Ind. *Medicine.* Richmond, June 8, 56. M.S, Earlham, 87; M.D, Bellevue Med. Col, 83. *General practitioner, 83–* County coroner, 84–88. Mem. Int. Tuberculosis Cong, London, 01. Am. Physicians; Am. Med. Ass; Miss. Valley Med. Soc. (v. pres.); Ind. Med. Soc. (pres.); Ind. Acad. Photomicrographic work in blood; tuberculosis; excreta of chronic Bright's disease patients.—Blood corpuscles in health and disease.

Bond, George M(eade), 141 Washington St, Hartford, Conn. *Engineering.* Newburyport, Mass, July 17, 52. M.E, Stevens, 80. Manager, Standards and Gauge Dept, Pratt and Whitney Co, Hartford, Conn, 80–82. Alumni trustee, Stevens, 95–98. F.A.A. (sec'y, D, 87); Mech. Eng. (manager, 88–91); Civil Eng; N. Y. Eng. and Transportation Clubs. Standards for linear dimensions and for interchangeability of products of manufacture.

Bonnet, Dr. Frederic, Jr, Worcester, Mass. *Physical chemistry.* St. Louis, Mo, Feb. 28, 78. B.S, Washington (St. Louis), 99; M.S, Harvard, 02, Ph.D, 03. *Instr. chem,* Col. Med, Iowa, 03–04; *Worcester, 04–* M.A.A; Chem. Soc; Chem. Gesell. Hydrolytic equilibrium of dissolved chromium sulphate; compressibility of metals.—Inorganic salts of tin.

Bonser, Prof. Frederick G(ordon), Cheney, Wash. *Psychology.* Tower Hill, Ills, June 14, 75. B.S, Illinois, 01, fellow, 01–02, M.S, 02; fellow, Teachers Col, Columbia, 05–06. Teacher, pub. schools, Ills, 97–98; Wash, 98–99; asst. psychol, Illinois, 01–02; *prof. psychol. and educ, State Nor. Sch, Cheney, Wash, 02–* Teacher psychol, Summer Sch, Illinois, 01. Mental activity and the circulation of blood; influence of early companions.—Mental activity and vegetative processes.

Bonser, Prof. Thomas, 02217 Monroe St, Spokane, Wash. *Botany.* Dayton, O, Sept. 21, 60. Ph.B, Otterbein, 99; M.S, Chicago, 03. Supt. schools, West Carrollton, O, 88–91; supt. schools and prof. bot, Carey, O, 91–03; *head, Dept. Biol, High Sch, Spokane, 03–* Ohio Acad. Plant ecology of Big Spring Prairie, Ohio.—Fertilization in Pseudotsuga Douglassii; ecology of swamp societies of eastern Washington.

Bonsteel, Dr. Jay A(llan), Franklinville, N. Y. *Agriculture, Geology.* Huntington, W. Va, April 13, 73. B.S, Cornell, 96; Ph.D, Hopkins, 01. Asst. geol, Cornell, 95–98; asst, Md. Geol. Surv, 98–99; student asst, U. S. Weather Bur, 98–00; *scientist, Bur. Soils, U. S. Dept. Agr, 00–* Detailed as prof. soil investigations, Cornell, 03–05. Wash. Geol. Soc. Adaptation of crops to

soils; classification of soils; relation of soils to geology.—General soil problems.

Bookman, Dr. S(amuel), 9 E. 62d St, New York, N. Y. *Chemistry.* New York, Dec. 11, 69. Columbia, 86–91; Ph.D, Berlin, 95. Chemist, N. J. Zinc and Iron Co, 95–96; assoc. physiol. chem, Path. Inst, N. Y. State Hospitals, 96–02; *physiol. chemist, Mt. Sinai Hosp, 04–* F.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Gesell; Chem. Verein. Physiological chemistry.—Acid intoxications and metabolism; experimental work.

Booraem, Robert Elmer, 267 Fifth Ave, New York, N. Y. *Mining engineering.* Jersey City, N. J. March 28, 56. E.M, Columbia, 78. Gen. manager, mining companies in western states, 79–81; *consulting engineer, 91–* Hon. librarian, U. S. Commission, Paris Expos, 00. Min. Eng. Saving wasted products in silver milling; mechanical inventions for saving labor.—Nickel and cobalt deposits in Canada.

Booth, Miss Mary A(nn), 60 Dartmouth St, Springfield, Mass. *Microscopy, Photomicrography.* Longmeadow, Mass, Sept. 9, 43. F.A.A; Micros. Soc; cor. mem. Nat. Geog. Soc; N. Y. Micros. Soc; fel. Royal Micros. Soc.

Böse, Dr. Emil, Instituto Geologico, 5a Calle del Cipres, Mexico, D. F. *Geology, Paleontology.* Hamburg, Germany, Aug. 11, 68. Berlin; Ph.D, Munich, 93. Asst. geol, Polytech, Karlsruhe, 96–97; *geologist, Inst. Geol. de Mex, 97–* Geol. Soc; Geol. Gesell; Soc. Géol. de France. Jurassic brachiopods; Triassic of the Alps and Italy; architectonics and stratigraphy of Mexico.—Geology of Mexico.

Boss, Dr. Lewis, Dudley Observatory, Albany, N. Y. **Astronomy.* Providence, R. I, Oct. 26, 46. A.B, Dartmouth, 70, A.M, 77. Civilian asst. in charge astron, U. S. Northern Boundary Commission, 72–76; *director, Dudley Observatory, 76–* Astronomer, U. S. Govt. Exped. to Observe Total Eclipse, Colo, 78; in charge, Transit of Venus Exped, Santiago, Chile, 82, and various others; state supt, Weights and Measures, N. Y, 84– LL.D, Union, 02; gold medal, Royal Astron. Soc, 05. Nat. Acad; Astron. and Astrophys. Soc; cor. mem. British Ass; for. assoc. Royal Astron. Soc; Leipzig Astron. Gesell. Comets; the sidereal system and meridian observations of stars.—Solar motion; standard system of star positions and motions; meridian determination of star positions.

Bostwick, Dr. Arthur E(lmore), 176 Mountain Ave, Montclair, N. J. *Physics.* Litchfield, Conn, March 8, 60. A.B, Yale, 81, Ph.D, 83, fellow, 81–84. Proctor and instr, Yale, 83–84; instr, High Sch, Montclair, 84–86; asst. ed, 'The Forum,' 90–92; assoc. ed, 'Standard Dict,' 92–95; *science ed, 'Literary Digest,' 94–;* librarian, N. Y. Free Circ. Library, 95–99; Brooklyn Pub. Library, 99–01; *chief, Circ. Dept, N. Y. Pub. Library, 01–* Annual summary of progress in physics, 'Appleton's Annual Cyclopedia.' Conn. Acad. Influence of light on conductivity of metals; absorption spectra of liquids.

Bouton, Dr. Charles L(eonard), 503 Craigie Hall, Cambridge, Mass. **Mathematics.* St. Louis, Mo, April 25, 69. M.S, Washington (St. Louis), 91; A.M, Harvard, 96; Ph.D, Leipzig, 98. Instr. math. and physics, Smith Acad, St. Louis, 91–94; *math,* Washington (St. Louis), 93–94; *Harvard,* 98–04, *asst. prof, 04–* F.A.A; Math. Soc. (asst. ed, 'Bul,' 00–02, 'Trans,' 02–); Math. Verein. Lie's theory of continuous groups.

Boutwell, J(ohn) M(ason), U. S. Geological Survey, Washington, D. C. *Geology, Physiography.* St. Louis, Mo, May 1, 74. Amherst, 93–94; A.B, Harvard, 97, B.S, 98, M.S, 99, grad. student, 99–00. Asst. physical geog, Harvard, 97–00; *asst. geologist, U. S. Geol. Surv, 00–* Asst. element. physical geog, Summer Sch, Harvard, 96–97, advanced physical geog, 97–98; field asst, U. S. Geol. Surv, 98–99. F.A.A; Geol. Soc; Min. Eng. Geographical bibliography; postglacial elevation of the coast of Maine; physiography and geology of northern Black Hills, South Dakota; igneous rocks of Little Cottonwood Cañon, Wasatch Mountains, Utah; auriferous detrital deposits; ore deposits of the Bingham mining district, Utah.—Areal and economic geology of the Park City mining district, Utah.

Bowden, Prof. Joseph, 403 Washington Ave, Brooklyn, N. Y. *Mathematics.* St. Day, England, Feb. 10, 69. A.B, Yale, 91, Ph.D, 97. Asst. math, Sheffield Sci. Sch, Yale, 92–93, tutor, Yale, 93–97; asst. prof. *math, Adelphi,* 98–99, *prof, 99–* Math. Soc; Brooklyn Inst. (pres, Math. Sect, 01–03). Elements of the theory of integers; electromagnetic theory of light.—Elementary theory of numbers.

Bowditch, Charles P(ickering), 28 State St, Boston, Mass. *Archeology.* Boston, Sept. 30, 42. A.B, Harvard, 63, A.M. Mem. Faculty, Peabody Mus, Harvard. F.A.A; Archeol. Inst; Antiq. Soc; Anthrop. Ass; fel. Ethnol. Soc; Am. Acad; Am. Geog. Soc; New Eng. Hist. Geneal. Soc; Mass. Hist. Soc; Boston Soc. Nat. Hist. (v. pres.); Int. Soc. Americanists; Paris Soc. des Americanistes. Mexican and Maya codices and inscriptions.

Bowditch, Prof. H(enry) P(ickering), Jamaica Plain, Boston, Mass. **Physiology.* Boston, April 4, 40. A.B, Harvard, 61, A.M, 66, M.D, 68. Asst. prof. *physiol, Harvard,* 71–76, *prof, 76–* Trustee, Boston Pub. Library, 94–02. LL.D, Edinburgh, 98; Toronto, 03; Pennsylvania, 04; hon. Sc.D, Cambridge, 98. Nat. Acad; F.A.A. (v. pres, 86, 04); Soc. Nat; Physiol. Soc; Philos. Soc; fel. Am. Acad. Physiology of the heart; vasomotor nerves; knee-jerk; physiology of vision; growth of children.

Bowen, Prof. John T(empleton), 14 Marlborough St, Boston, Mass. *Dermatology.* Boston, July 8, 57. A.B, Harvard, 79, M.D, 84. Instr. *dermat, Harvard,* 96–02, *asst. prof, 02–* Physician diseases of the skin, Mass. Gen. Hosp, 96. Ass. Path. and Bact; Dermat. Ass; Boston

Soc. Med. Sci; Boston Soc. Med. Improv. Dermatology.

Bowers, Miss Mary A(lice), Wellesley College, Wellesley, Mass. *Zoology.* Saco, Me, Oct. 2, 71. B.L, Smith, 95; A.M, Radcliffe, 98. Demonstrator zool. and bot, Smith, 98–99; *instr. zool, Wellesley, 99–* Boston Soc. Nat. Hist; Mass. Audubon Soc. Peripheral distribution of the cranial nerves of Spelerpes bilineatus.

Bowles, F(rancis) T(iffany), 148 Marlborough St, Boston, Mass. *Naval architecture.* Springfield, Mass, Oct. 7, 58. Grad, U. S. Naval Acad, 79; Royal Naval Col, England, 79–82. Asst. naval constructor, U. S. N, 81–88, naval constructor, 88–01, chief constructor, 01–03; *pres, Fore River Ship Building Co, Quincy, Mass, 03–* Naval Archit. and Marine Eng. (pres.); London Inst. Naval Archit.

Bowne, Prof. Borden P(arker), 380 Longwood Ave, Boston, Mass. *Philosophy.* Leonardville, N. J, Jan. 14, 47. A.B, N. Y. Univ, 71; Paris, 72–75; A.M, N. Y. Univ, 76; Halle and Göttingen. Instr. modern languages, N. Y. Univ, 75–76; *prof. philos, Boston, 76–, dean, Grad. Dept.* Assoc. ed, 'N. Y. Independent,' 75–76. LL.D, N. Y. Univ, 81. Metaphysics; ethics; theism.

Bownocker, Prof. J(ohn) A(dams), Columbus, O. *Geology.* St. Paul, O, March 11, 65. B.S, Ohio State, 89; fellow, Chicago, 92–94; Yale, 94–95; Sc.D, Ohio State, 97. Principal, High Sch, Martins Ferry, O, 89–92; asst. geol, *Ohio State,* 95–98, asst. prof, 98–99, assoc. prof. *inorg. geol,* 99–01, *prof, 01–, curator, Mus, 00–* Asst. geologist, Ohio Geol. Surv, 92; N. J. Geol. Surv, 93; asst. state geologist, Ohio, 00– F.A.A; Geol. Soc; Ohio Acad. Drainage modifications in Ohio; the oil and gas of Ohio.—Salt and coal of Ohio.

Boyd, James E(llsworth), 60 W. Maynard Ave, Columbus, O. *Mechanics, Physics.* Near Stovertown, O, Nov. 6, 63. B.S, Ohio State, 91; M.S, Cornell, 96. Asst. physics, *Ohio State,* 91–95, asst. prof, 96–01, *assoc. prof. math, 01–* Asst. to judges in elec, Columbian Expos, 93. F.A.A. Alternating currents; resistance of the human body; timing shutters; water jets.—Flow in pipes; reenforced concrete.

Boyd, Dr. James Harrington, 218 Gardner Building, Toledo, O. *Mathematics.* Coshocton, O, Dec. 7, 62. A.B, Princeton, 86, fellow, 87, A.M, 88, Sc.D, 92; Göttingen, 90–91, 92–93; Law Sch, Harvard, 02–03. Prof. math, Macalister, 88–90, 91–92; tutor, Chicago, 93–95, instr, 95–02; *practising attorney, 04–* Elliptic function; hypergeometric functions; geometry; analytical mechanics; differential equations; analytical geometry.

Boyé, Dr. M(artin) H(ans), Coopersburg, Pa. *Chemistry, Physics, Medicine.* Copenhagen, Denmark, Dec. 6, 12. Grad, Copenhagen, 32; Polytech, Copenhagen, 35; M.D, Pennsylvania, 44. Asst. geologist and chemist, First Pa. Geol. Surv, 38–43; prof. chem. and nat. philos, Central High Sch, Phila, 45–59. Hon. A.M, Pennsylvania, 44. F.A.A; Philos. Soc; Franklin Inst. Discovered percloric ether and chlorid of platinum with nitric oxid; analysis of waters, minerals, limestones, etc.

Boynton, Dr. H(enry) C(ook), 23 Ellsworth Ave, Cambridge, Mass. *Metallurgy.* Willsborough, N. Y, April 16, 74. A.B, Harvard, 00, Austin fellow, 00–03, M.S, 01, Sc.D, 04; Carnegie research scholar, Gt. Britain Iron and Steel Inst, 05–06. Asst. to dean of Grad. Sch, *Harvard,* 94–96, *instr. metal. and metallog, 03–* Min. Eng; Gt. Britain Iron and Steel Inst. Metallurgy; metallography.—A definite hardness number for the micro-constituents of iron and steel.

Boynton, Prof. W(illiam) P(ingry), 135 E. 11th St, Eugene, Ore. *Physics.* Weathersfield, Vt, Oct. 28, 67. A.B, Dartmouth, 90, A.M, 93; fellow, Clark, 96–97, Ph.D, 97. Asst. *physics,* Dartmouth, 88–90; prof, Southern California, 90–93; asst, Dartmouth, 93–94; instr, California, 97–01; *asst. prof, Oregon, 03–* Physical Soc. The high frequency induction coil; thermodynamic potentials.—Measurement of high oscillatory potentials.

Bracken, Dr. H(enry) M(artyn), 1010 Fourth St, S. E, Minneapolis, Minn. *Medicine.* Noblestown, Pa, Feb. 27, 54. M.D, Columbia, 77; L.R.C.S, Edinburgh, 79. *Prof. materia medica and therapeut, Minnesota, 88–* Sec'y and executive officer, Minn. State Board of Health. F.A.A; Am. Med. Ass; Pub. Health Ass; Climat. Ass; Minn. Med. Soc; Hennepin Co. (Minn.) Med. Soc. Materia medica; therapeutics.

Brackett, Dr. B(yron) B(riggs), Thomas S. Clarkson Memorial School of Technology, Potsdam, N. Y. *Physics, Applied electricity.* Ira, N. Y, Aug. 13, 65. A.B, Syracuse, 90, A.M, 93; Ph.D, Hopkins, 97. Teacher math, Dickinson Sem, Williamsport, 90–92; Col. Dept, Adelphi Acad, 92–93; student asst, Elec. Dept, Hopkins, 94–97; teacher elec. eng, Union, 97–98; physics, High Sch, Washington, D. C, 98–00; engineer, Rowland Telegraph Co, 00–01; instr, elec. science, Rutgers, 01–03; *prof. physics and elec. eng, Thomas S. Clarkson Mem. Sch. Tech, 03–* Inspector torpedo cable, Eng. Dept, U. S. A, 98. M.A.A; assoc. mem. Elec. Eng. Magnetic stresses.—Laboratory instruments for measurement of alternating currents and voltage.

Brackett, Prof. C(yrus) F(ogg), Princeton University, Princeton, N. J. **Physics.* Parsonfield, Me, June 24, 33. A.B, Bowdoin, 59, M.D, 63. Prof. chem. and nat. science, Bowdoin, 63–73; *Henry prof. physics, Princeton, 73–* F.A.A. (v. pres, 86); Physical Soc; Elec. Eng; Philos. Soc.

Brackett, Prof. F(rank) P(arkhurst), Claremont, Cal. *Mathematics, Astronomy.* Provincetown, Mass, June 16, 65. A.B, Dartmouth, 87, A.M, 90. Instr. *math, Pomona,* 88–90, *prof, 90–* M.A.A; Math. Soc; Astron. and Astrophys. Soc; Pacific Astron. Soc; S. Cal. Acad. Astronomy, especially meteors.

Brackett, Dr. R(ichard) N(ewman), Clemson College, S. C. *Chemistry, Mineralogy.* Near Columbia, S. C, Sept. 14, 63. A.B, Davidson, 83; Ph.D, Hopkins, 87. Chemist, Ark. Geol. Surv, 87–91; *asst. chemist, S. C. Exp. Sta, and assoc. prof. chem, Clemson, 91–* F.A.A; Chem. Soc. Ethers of benzoic sulphinid; preparation of orthosulphobenzoic acid; peridotite of Pike County, Arkansas; newtonite and rectorite.

Bradford, Dr. Edward H(ickling), 133 Newbury St, Boston, Mass. *Surgery.* Boston, June 9, 48. A.B, Harvard, 69, M.D, 72. Surgeon, Children's Hosp, 80; Boston City Hosp, 83; instr. clin. surg, *Harvard Med. Sch,* 85–93, asst. prof. *orthop. surg,* 93–04, *prof, 04–* Surg. Ass; Orthop. Ass; Am. Med. Ass; Am. Acad; Mass. Med. Soc. Human deformities.

Bradford, Prof. Robert H(enry), 855 N. 16 West St, Salt Lake City, Utah. *Metallurgy.* Salt Lake City, Dec. 10, 71. B.S, Utah, 95; Chicago, summers, 95, 96; fellow, Columbia, 00–02, Ph.D, 02. Instr. physics, *Utah,* 95–96, miner. and metal, 96–98, asst. prof, 98–03, *prof. metal, 03–* Min. Eng. Reactions of the Ziervogel process and their temperature limits; effect of heat treatment on 0.14 per cent. carbon steel.—Effect of heat treatment on 0.50 per cent. carbon steel; determinations of amounts of silver in hard lead.

Bradford, Rear Admiral R(oyal) B(ird), U. S. N, 1522 P St, N. W, Washington, D. C. *Naval science.* Turner, Me, July 22, 44. Grad, U. S. Naval Acad, 65. Ensign, master, lieut, lieut. commander, commander, capt, *rear admiral, U. S. N, 66–,* chief, Bur. Equipment, Navy Dept, 97–03. Commander, Third Squadron, N. Atlantic Fleet. F.A.A. Electricity; torpedo warfare; high explosives; ordnance; warship designs, armaments and equipment; wireless telegraphy; naval coal depots; naval regulations.

Bradley, Charles S(chenck), 111 W. 86th St, New York, N. Y. **Electricity, Chemistry.* Victor, N. Y, April 12, 53. Special course in chem, Rochester. Elec. engineer, Edison Illuminating Co, 81–84; *practising electrician, 84–* Elec. Eng. Alternating current; transmission; motors; electrochemistry; fixation of nitrogen.

Bradley, Harry C(yrus), Massachusetts Institute of Technology, Boston, Mass. *Civil engineering, Descriptive geometry.* Plaistow, N. H, July 7, 71. B.S, Mass. Inst. Tech, 91. Fog signal experiments, U. S. Light-house Dept, 93–96; *instr. descriptive geom, Mass. Inst. Tech, 97–* Expert irrig. investigations, U. S. Dept. Agr, 01. Fog signals; irrigation.—Graphical methods.

Bradley, J(ames) Chester, Entomological Laboratory Cornell University, Ithaca, N. Y. *Entomology.* West Chester, Pa, Feb. 11, 84. A.B, Central High Sch, Phila, 03; Cornell, 04– *Asst. entom, Cornell, 05–* Ed, 'Entom. Student,' 00, ed. and manager, 01. M.A.A; Entom. Soc. (librarian and mem. Exec. Committee, 03–); Phila. Acad; assoc. Ont. Entom. Soc. Systematic hymenopterology; Phytophaga; parasitic Hymenoptera; Evaniidae of world; North American Siricoidea.

Bradley, Prof. W(alter) P(arke), 256 College St, Middletown, Conn. *Chemistry.* Lee, Mass, July 7, 62. A.B, Williams, 84; Ph.D, Göttingen, 89. Asst. *chem,* Williams, 86–88; instr, *Wesleyan,* 89–90, assoc. prof, 90–93, *prof, 93–* M.A.A; Chem. Soc; Chem. Gesell. Organic chemistry; critical constants of liquids.—Theory of liquid air production; chemistry of low temperatures.

Brainerd, Pres. Ezra, Middlebury, Vt. *Psychology, Ethics.* St. Albans, Vt, Dec. 17, 44. A.B, Middlebury, 64, A.M, 67; B.D, Andover Theol. Sem, 68. Tutor, *Middlebury,* 64–66, prof. rhetoric and English lit, 68–80, physics, 80–86, *pres, 85–* Commissioner to draft a sch. law for Vt, 87. LL.D, Vermont, 86; Ripon, 88; D.D, Howard, 01. Geol. Soc; New Eng. Bot. Club; Vt. Bot. Club (pres.). Geology of the Champlain Valley.—Botany of Vermont.

Brand, Charles J(ohn), The Melrose, 1343 Clifton St, N. W, Washington, D. C. *Botany.* Lac-qui-Parle Co, Minn, Oct. 24, 79. A.B, Minnesota, 02. Asst. curator, Dept. Bot, Field Columbian Mus, Chicago, 02–04; *asst. physiologist, U. S. Dept. Agr, 04–* Asst. bot, Summer Sch, Minnesota, 00; asst, Minn. Geol. and Nat. Hist. Surv, 01. Minn. Bot. Soc; Wash. Bot. Soc. Plant economics; algology.—The influence of the origin and change of seed on productiveness; electroculture.

Brandt, Prof. Francis Burke, 4337 Larchwood Ave, West Philadelphia, Pa. *Philosophy, Education.* Philadelphia, June 13, 65. A.B, Harvard, 92; fellow, Columbia, 94–95, Ph.D, 95. Instr, Columbia Grammar Sch, N. Y, 92–94; *Central High Sch, Phila, 95–96, prof. pedag. and head of dept, 96–* Assoc. ed, 'The Teacher,' 97–98; ed, 'Phila. Sch. of Pedag. Record.' Psychol. Ass; Philos. Ass; Nat. Educ. Ass; Soc. Sci. Educ. The social conditions of instituted education; the general scope of educational science. —The function of instituted education; differentiation in the structure and function of the school.

Branner, Prof. J(ohn) C(asper), Stanford University, Cal. **Geology.* New Market, Tenn, July 4, 50. B.S, Cornell, 82; Ph.D, Indiana, 85. Geologist, Imperial Geol. Surv, Brazil, 75–77; topographer, Pa. Geol. Surv, 83–85; *prof. geol,* Indiana, 85–91; *Stanford, 91–, v. pres, 99–* State geologist, Ark, 87–93; geologist, U. S. Geol. Surv; assoc. ed, 'Jour. of Geol.' LL.D, Arkansas, 97. Nat. Acad; F.A.A. (sec'y, E, 88–89, v. pres, 90); Soc. Nat; Geol. Soc. (pres, 04); Min. Eng; Philos. Soc; Franklin Inst; Cal. Acad; Wash. Acad; Wash. Geol. Soc; London Geol. Soc; Edinburgh Geol. Soc; cor. mem. Royal Scottish Geog. Soc; Soc. géol. de France; Soc. Belge de Géol; Inst. Geog. e Hist. da Bahia; hon. mem. Inst. Geog. Pernambucano; Inst. Hist. de S. Paulo. Physical geology and geography.—Geology of the coast ranges of

California; geology of eastern Brazil; geology of Arkansas.

Brannon, Prof. M(elvin) A(mos), 417 S. Sixth St, Grand Forks, N. Dak. *Botany.* Lowell, Ind, Sept. 11, 65. A.B, Wabash, 89, A.M, 90; Woods Hole, 91–94; Chicago, 95–96. Teacher science, High Sch, Fort Wayne, Ind, 90–94; *prof. biol, North Dakota, 94–* Soc. Nat; Bot. Cent. States; Ind. Acad; St. Louis Acad. Algae; bacteria.—Bacterial products.

Brashear, Dr. John A(lfred), 1954 Perrysville Ave, Allegheny, Pa. **Astronomy, Physics, Mechanics.* Brownsville, Pa, Nov. 24, 40. Pub. schools. Mech. engineer, Iron Mills, Pittsburg, Pa, 60–80; *mfg. astron. and physical apparatus, 80–* Acting director, Allegheny Observatory, 98–00; acting chancellor, Western Univ. of Pa. Hon. Sc.D, Western Univ. of Pa; LL.D, Wooster and Washington and Jefferson. F.A.A. (v. pres, 00); Mech. Eng; Philos. Soc; Pittsburg Acad. (past pres.); West. Pa. Eng. Soc. (past pres.); hon. mem. Toronto Astron. Soc; British Astron. Soc; fel. Royal Astron. Soc; Soc. astron. de France; Soc. astron. de Belgique. Solar phenomena; the floor of the lunar crater Plato; comets and their physical changes; formation of volcanic craters, with particular reference to formation on the moon; development of astrophysical instruments; optical surfaces, plane and curved; the refinement of modern measurements.

Bray, Prof. William (L), 2207 San Antonio St, Austin, Tex. **Botany.* Burnside, Ills, Sept. 19, 65. Cornell, 89–91; A.B, Indiana, 93; A.M, Lake Forest, 94; Berlin, 96–97; Ph.D, Chicago, 98. Instr. bot, Lake Forest, 94–95, adj. prof. biol, 96; instr. *bot, Texas,* 97, adj. prof, 98–01, *assoc. prof, 02–* Field asst, U. S. Biol. Surv, 99; collaborator, Bur. Forestry, U. S. Dept. Agr, 99– F.A.A; Bot. Soc; Forestry Ass. (v. pres.); Geog. Ass; Wash. Biol. Soc; Tex. Acad. (librarian); Int. Ass. Bot. Certain geographical distributions; relation of the floras of North and South America; ecological relations of Texas vegetation; forest resources of Texas.—Vegetation of the Sotol country.

Breckenridge, Prof. L(ester) P(aige), University of Illinois, Urbana, Ills. *Mechanical engineering.* Meriden, Conn, May 17, 58. Ph.B, Yale, 81. With Water Power Co, Holyoke, Mass, 81–82; instr, Mech. Eng. Dept, Lehigh, 82–84; mech. engineer with various companies, 84–86; instr, Mech. Eng. Dept, Lehigh, 86–91; *prof. mech. eng,* Mich. Agr. Col, 91–93; *Illinois, 93–, director, Eng. Exp. Sta, 05–* Consulting engineer, Lehigh Zinc and Iron Co, 86–91; director boiler trials, U. S. Geol. Surv. Coal Tests, World's Fair Sta, St. Louis, 04– Mech. Eng; Eng. Educ; West. Soc. Eng; West. Ry. Club. Mechanical engineering.—Tests of high speed tool steels; tests of United States coals at St. Louis.

Breed, Prof. Mary B(idwell), Bloomington, Ind. *Chemistry.* Pittsburg, Pa, Sept. 15, 70. A.B, Bryn Mawr, 94, European fellowship, 94–95, A.M, 95; Heidelberg, 95–96; Ph.D, Bryn Mawr, 01. Asst, Chem. Lab, Bryn Mawr, 94–95; head, Science Dept, Pa. Col. for Women, 97–99; *asst. prof. chem. and dean of women, Indiana, 01–* Chem. Soc; Chem. Gesell. Atomic weight of palladium; polybasic and diortho substituted aromatic acids.

Breed, Prof. Robert S(tanley), Allegheny College, Meadville, Pa. *Biology, Geology.* Brooklyn, Pa, Oct. 17, 77. B.S, Amherst, 98; M.S, Colorado, 99; Ph.D, Harvard, 02. Instr. biol, Colorado, 98–99; asst. zool, Harvard, 00–02; *prof. biol. and geol, Allegheny, 02–* M.A.A; Soc. Nat. Trachytes; postembryonic development of insects.—Postembryonic development of insects.

Breese, Dr. B(urtis) B(urr), University of Cincinnati, Cincinnati, O. *Psychology.* Chemung Co, N. Y, May 17, 68. A.B, Kansas, 96; A.B, Harvard, 97, A.M, 98; Ph.D, Columbia, 99. *Prof.* psychol. and ethics, Tennessee, 02–04; *psychol, Cincinnati, 04–* Inhibition.—Motor activity and conscious activity.

Breisacher, Dr. Leo, 71 Washington Ave, Detroit, Mich. *Medicine.* Detroit, Oct. 1, 66. Berlin, 88–91; M.D, Pennsylvania, 92. Demonstrator comp. physiol, Pennsylvania, 88–92, lecturer, 92–93, prof, 93–94; clin. gastro-enterol, Detroit Col. Med, 04. Consulting gastro-enterologist, Harper Hosp, Detroit, 01. Soc. Nat; Physiol. Soc; Mich. State, Wayne Co. and Detroit Med. Societies. Physiology of thyroid gland; minimum albumen diet; physiology of sleep; physiology of the superior laryngeal nerve.—Thyroid gland; metabolism; artificially prepared foods; gall-stones; diet in health and disease; etc.

Bremer, Dr. J(ohn) L(ewis), 416 Beacon St, Boston, Mass. *Embryology.* New York, N. Y, Nov. 3, 74. A.B, Harvard, 96; Oxford, 96–97; M.D, Harvard, 01. Asst. *histol. and embryol, Harvard Med. Sch,* 02, *instr, 03–* Ass. Anat; Boston Soc. Nat. Hist. Pulmonary arteries of vertebrates; lung of opossum.

Breneman, Prof. A(bram) A(dam), 97 Water St, New York, N. Y. *Chemistry.* Lancaster, Pa, April 28, 47. B.S, Pa. State, 66. Acting prof. chem, Pa. State, 68–69, prof, 69–72; asst. prof, Cornell, 75–79, prof. indust. chem, 79–82; *chem. expert, 82–* Chairman, Jury on Mineral Waters, Columbian Expos, 93; La. Purchase Expos, 04. Chem. Soc. (v. pres, 89–92, ed, 'Jour,' 84–93); cor. mem. Phila. Acad. Water analysis and water supply; fixation of atmospheric nitrogen.

Brenke, W(illiam) C(harles), 1005 W. Oregon St, Urbana, Ills. *Mathematics, Astronomy.* Berlin, Germany, April 12, 74. B.S, Illinois, 96, 97, M.S, 99; Harvard, 04– Instr. math, Illinois, 96–00, instr. math. and astron. and in charge of Observatory, 00–03. Some variable stars.

Brennan, Dr. Martin S(tanislaus), 1414 O'Fallon St, St. Louis, Mo. *Astronomy, Geology.* St. Louis, July 23, 45. A.B, Christian Brothers Col, St. Louis, 65, A.M, 69, Sc.D, 00. *Pastor,* St. Thomas of Aquin Church, 84–92; *St.*

Lawrence's Church, and prof. astron. and geol, Kenrick Theol. Sem, St. Louis, 92– Astron. and Astrophys. Soc; Pacific Astron. Soc; St. Louis Acad; British Ass. Electricity; astronomy.

Brewer, Prof. Cha(rle)s E(dward), Wake Forest, N. C. *Chemistry.* Wake Forest, July 12, 66. A.M, Wake Forest, 86; Hopkins, 87–89; Ph.D, Cornell, 00. *Prof. chem, Wake Forest, 89–* F.A.A; Chem. Soc. (pres, N. C. Sect, 02–03); Soc. Chem. Indust; Chem. Gesell. Structure of galein and coerulein.—Structure of the phthaleins.

Brewer, Dr. G(eorge) E(merson), 61 W. 48th St. New York, N. Y. *Surgery, Anatomy.* Westfield, N. Y, July 28, 61. A.B, Hamilton, 83, A.M, 84; M.D, Harvard, 85. Demonstrator anat, *Columbia,* 91–99, instr. surg, 99–03, lecturer *clin. surg,* 03, *prof, 04–* Junior surgeon, Roosevelt Hosp; attending surgeon, City Hosp. Ass. Anat; fel. Surg. Ass; fel. Ass. Genito-Urinary Surg; fel. N. Y. Surg. Soc; fel. N. Y. Acad. Med; cor. mem. Ass. française d'Urol. Surgical anatomy; surgery.

Brewer, Prof. W(illia)m H(enry), 418 Orange St, New Haven, Conn. **Agriculture, Botany, Geology, Chemistry.* Poughkeepsie, N. Y, Sept. 14, 28. Ph.B, Yale, 52, A.M, 59; Ph.D, Washington and Jefferson, 80; Heidelberg, Munich and Paris. Prof. chem. and geol, Washington (Pa.), 58–60; chem, California, 63–64; *agr, Yale,* 64–04, *emer. prof, 04–* First asst, Cal. Geol. Surv, 60–64. LL.D, Yale, 03. Nat. Acad; F.A.A. (v. pres, 93); Soc. Nat; Soc. Prom. Agr. Sci; Am. Geog. Soc; Nat. Geog. Soc; Conn. Acad. (pres, 87, 97). Agriculture; stock breeding; botany; forestry; geology; chemistry; sanitary science.—Sedimentation.

Brewster, William, 145 Brattle St, Cambridge, Mass. **Ornithology.* Wakefield, Mass, July 5, 51. High Sch. *Asst. in charge* birds and mammals, Boston Soc. Nat. Hist, 80–87; *Mus. Comp. Zool, Harvard,* 85–00, *birds, 00–* Mem. Trustees of Pub. Reservations; trustee of Brewster Free Acad, Wolfboro, N. H. Hon. A.B, Amherst, 80; A.M, Harvard, 99. Mem. Int. Permanent Ornith. Committee. Fel. Ornith. Union (past pres.); fel. Am. Acad; Nat. Geog. Soc; New Eng. Bot. Club; Mass. Audubon Soc. (pres.); Nuttall Ornith. Club (pres.); hon. mem. Mich. Ornith. Club; hon. mem. United Ornith. of Me; Wash. Acad; cor. mem. Phila. Acad; assoc. mem. Boston Soc. Nat. Hist; hon. mem. Boston Zool. Soc; cor. mem. Wash. Biol. Soc; hon. mem. Trinidad Field Nat. Club; cor. mem. London Zool. Soc. Habits and distribution of North American birds.

Brickner, Dr. Samuel M(ax), 136 W. 85th St, New York, N. Y. *Gynecology.* Rochester, N. Y, Jan. 11, 67. A.B, Rochester, 88, A.M, 91; M.D, Columbia, 91. Attending gynecologist, Mt. Sinai Hosp. Dispensary, 94, adj. gynecologist, Mt. Sinai Hosp, 03. House surgeon, Sloane Maternity Hosp, 91; Mt. Sinai Hosp, 92–94; gynecologist, Good Samaritan Hosp, 01–03. Ass. Anat; Anthrop. Ass; N. Y. Acad. Med. Comparative anatomy of the genito-urinary system; clinical gynecology.

Bridge, Dr. Norman, Los Angeles, Cal. *Pathology, Sociology.* Windsor, Vt, Dec. 30, 44. M.D, Northwestern, 68; M.D, Rush Med. Col, 78. Instr. *med, Rush Med. Col, Chicago,* 74–84, prof, 84–00, *emer. prof, 00–* Mem. Board of Educ, Chicago, 81–84; Board of Election Commissioners, 86–90. Hon. A.M, Lake Forest, 89. Am. Physicians; Am. Med. Ass; Climat. Ass; Cal. Med. Soc; cor. mem. Wis. Acad; Los Angeles Co. Med. Ass; Chicago Med. Soc. The practice of internal medicine.

Briggs, Dr. Lyman J(ames), U. S. Department of Agriculture, Washington, D. C. **Physics.* Assyria, Mich, May 7, 74. B.S, Mich. Agr. Col, 93; M.S, Michigan, 95; Ph.D, Hopkins, 01. *Physicist, Bur. Soils, U. S. Dept. Agr, 96–* F.A.A; Physical Soc; Wash. Philos. Soc. Adsorption of salts and gases by soils; physics of solutions and finely divided solids in relation to soil investigations.—Adsorption; flocculation; physical properties of soils.

Brigham, Prof. Albert P(erry), Hamilton, N. Y. **Geology, Physical geography.* Perry, N. Y, June 12, 55. A.B, Colgate, 79, A.M, 82; A.M, Harvard, 92. Clergyman, 82–91; *prof. geol, Colgate, 92–* Instr. geol, Summer Sch, Harvard, 95, 96, 00; prof. geol. and physical geog, Summer Sch, Cornell, 01–04; geol, Summer Sch, Wisconsin, 06. F.A.A; Geol. Soc; Geog. Ass. (sec'y and treas.); Nat. Geog. Soc; Am. Geog. Soc. (assoc. ed, 'Bul.'); Nat. Educ. Ass. (chairman, Committee on Physical Geog, 98); N. Y. State Sci. Teachers Ass. (pres, 05). Physiography; glacial geology.

Brill, Dr. N(athan) E(dwin), 48 W. 76th St, New York, N. Y. *Medicine, Biology.* New York, Jan. 13, 60. A.B, Col. City of N. Y, 77, A.M, 83. Lecturer med. juris, Post-Grad. Med. Sch. N. Y, 82, neuroanat. and neuropath, 83–84; *attending physician, Mt. Sinai Hosp, N. Y,* M.A.A; Ass. Anat; Neur. Ass; Ass. Study and Prevention of Tuberculosis; N. Y. State Med. Ass; N. Y. Acad. Med; N. Y. Co. Med. Soc. (first v. pres, 98); N. Y. Path. Soc; N. Y. Neur. Soc; N. Y. Soc. Med. Juris. (pres, 90–91). Internal medicine.

Brinckerhoff, Dr. W(alter) R(emsen), 688 Boylston St, Boston, Mass. *Medicine, Pathology.* Matteawan, N. Y, July 4, 74. B.S, Harvard, 97, M.D, 01, special work under Dr. W. T. Councilman, Harvard Med. Sch, 02; fellow, Rockefeller Inst. for Med. Research, 04. Second asst. *path,* Boston City Hosp, 01–02, first asst, 02–03; asst, *Harvard Med. Sch,* 03–05, *instr, 05–* Physician, Carnegie Archeol. Exped. to Trans-Caspia, 05. Ass. Path. and Bact; Boston Soc. Med. Sci; Boston Soc. Nat. Hist; P. I. Med. Soc. Leucocytes, especially of rabbit; smallpox.

Bristol, Prof. Charles L(awrence), New York University, University Heights, New York, N. Y. **Zoology.* Ballston Spa, N. Y, Sept. 29, 59. B.S, N. Y. Univ, 83, M.S, 88; fellow, Clark, 91;

fellow, Chicago, 92–93, Ph.D, 95. Instr, Riverview Acad, Poughkeepsie, N. Y, 84–88; *prof. zool*, South Dakota, 88–91; *N. Y. Univ, 94–* Director, N. Y. Univ. zool. expeditions to Bermuda, 97–; assoc. director, Bermuda Biol. Lab. for Research, 04– Soc. Nat; Soc. Zool; fel. N. Y. Acad. Metamerism in leeches.—The marine fauna of Bermuda.

Bristol, Prof. W(illia)m H(enry), Stevens Institute, Hoboken, N. J. *Mathematics, Physics.* Waterbury, Conn, July 5, 59. M.E, Stevens, 84. Instr, Manual Dept, Workingman's Sch, Soc. for Ethical Culture, N. Y, 83–86; *math, Stevens*, 86–88, asst. prof, 88–99, *prof, 99–* Pres, Bristol Co, Waterbury, Conn. F.A.A; Mech. Eng. Development of Bristol's recording instruments for pressure, temperature and electricity.—Recording pyrometer for temperature above 1000° F.

Britton, Dr. N(athaniel) L(ord), 2965 Decatur Ave, Bronx, New York, N. Y. **Botany.* New Dorp, Staten Island, N. Y, Jan. 15, 59. E.M, Columbia, 79, Ph.D, 81. Asst. geol, *Columbia*, 79–87, instr. *bot*, 87–90, adj. prof, 90–91, prof, 91–96, *emer. prof, 96–; director-in-chief, N. Y. Bot. Garden, 96–* Botanist and asst. geologist, N. J. Geol. Surv, 80–90; field asst, U. S. Geol. Surv, 82; adviser in bot, Carnegie Inst, 02. Hon. Sc.D, Columbia, 04. F.A.A. (v. pres, 96); Bot. Soc. (pres, 98–99); Am. Inst; Torrey Bot. Club (ed, 88–97); fel. N. Y. Acad. (v. pres, 01–02); N. Y. Hort. Soc. (chairman, Council, 01–05); N. Y. Micros. Soc; Staten Isl. Nat. Sci. Ass. (pres, 88–91); Wash. Biol. Soc. American systematic botany.—North American flora (Crassulaceae, Cyperaceae); flora of Puerto Rico, Bolivia, Paraguay, and the Bahamas.

Britton, Mrs. N. L. (Elizabeth Gertrude), 2965 Decatur Ave, Bronx, New York, N. Y. **Botany.* New York, Jan. 9, 58. N. Y. City Nor. Col, 75. Critic teacher pedag, Training Dept, N. Y. City Nor. Col, 75–82, teacher bot, 82–85. Hon. assoc. instr. crypt. bot, Columbia, Barnard and N. Y. Bot. Garden. Bot. Soc; Torrey Bot. Club (ed, 'Bul,' 86–89). Anatomy and classification of mosses and ferns.—Mosses of the West Indies, southern Florida and Mexico.

Britton, Dr. W(ilton) E(verett), Connecticut Agricultural Experiment Station, New Haven, Conn. *Entomology, Botany.* Marlboro, Mass, Sept. 18, 68. B.S, N. H. Col. Agr. and Mech. Arts, 93; Cornell, 93–94; Ph.D, Yale, 03. Horticulturist, *Conn. Agr. Exp. Sta*, 94–01, *entomologist, and state entomologist, 01–* Lecturer entom, Forest Sch, Yale, 01–; entomologist, State Board of Agr, 04. M.A.A; Ass. Econ. Entom; Conn. Acad; Conn. Pomol. and Bot. Societies; cor. mem. Wash. Entom. Soc. Nutrition of plants; life histories of insects; methods of combating injurious species.—Scale insects of Connecticut; Aleyrodes vaporariorum west and other species of economic insects; flora of the North Haven (Conn.) sand-plains.

Broadhead, Prof. G(arland) C(arr), 701 S. Fifth St, Columbia, Mo. *Geology.* Albermarle Co, Va, Oct. 30, 27. Missouri, 50–51; Western Mil. Inst, Dronnon, Ky, 51–52. Asst. state geologist, Mo, 57–61; Ills, 68; Mo, 71–73, state geologist, 73–75; prof. *geol, Missouri*, 87–97, *emer. prof, 97–* Juror, Mines and Geol, Centennial Expos, 76; special agent, Building Stones of Mo. and Kas, Tenth Census, 81; mem. Mo. River Commission, 84–02; Mo. State Board of Mines and Geol, 89–93; civil engineer, various railroad surveys. Hon. M.S, Missouri, 73. Geol. Soc; Nat. Geog. Soc; cor. mem. St. Louis Acad; Mo. Hist. Soc; Va. Hist. Soc. Geology.

Brock, Prof. R(eginald) W(alter), School of Mining, Kingston, Can. *Geology.* Perth, Ont, Jan. 10, 74. Toronto, 90–92; A.M, Queen's (Can.), 95; Heidelberg, 95, 00–01. Instr. miner, Sch. of Mining, Kingston, 96–97; *geologist, Can. Geol. Surv, 97–; prof. geol, Sch. of Mining, 02–* Commissioner, Frank Landslide Inquiry, 03. F.A.A; Geol. Soc; Min. Eng; Can. Min. Inst. Economic geology.

Brödel, Max, Johns Hopkins Hospital, Baltimore, Md. *Anatomy, Medical illustration.* Leipzig, Germany, June 8, 70. Acad. of Fine Arts, Leipzig, 85–90. *Instr. art applied to med, Hopkins, 05–* Ass. Anat. Development of vascularization in various organs of the abdominal viscera.

Brooke, Will(iam) E(llsworth), 709 Deleware St, S.E, Minneapolis, Minn. *Mathematics, Engineering.* Minier, Ills, Oct. 7, 70. B.C.E, Nebraska, 92, A.M, 96. Fellow and asst. math, Nebraska, 94–97; *instr*, High Sch, Omaha, 97–01; *eng. math, Minnesota, 01–* Math. Soc; Eng. Educ. Irrational integrals.

Brooks, Alfred H(ulse), U. S. Geological Survey, Washington, D. C. **Geology.* Ann Arbor, Mich, July 18, 71. Stuttgart, 89–90; Munich, 90–91; B.S, Harvard, 94; Paris, 97–98. Asst. geologist, *U. S. Geol. Surv*, 94–01, geologist, 01–02, *geologist in charge, Div. Alaskan Mineral Resources, 02–* F.A.A; Geol. Soc; Min. Eng; Geog. Ass. Stratigraphic, economic and general geology; explorations in Alaska.—Geography, geology and mineral resources of Alaska.

Brooks, Dr. Edward, 5971 Drexel Road, Philadelphia, Pa. *Education.* Stony Point, N. Y, Jan. 16, 31. Grad, Univ. N. Pa, 52. Prof. lit. and math, Univ. N. Pa, 52–53; math, Acad, Monticello, N. Y, 54; math. and lit, State Nor. Sch, Millersville, Pa, 55–66, pres, 66–83; *supt. pub. schools, Phila, 91–* Pres, Sch. of Oratory, 84–85. Hon. A.M, Union; Ph.D, Lafayette, Washington and Lee and Hyatts Mil. Acad. Nat. Educ. Ass. (pres, Dept. Supt, 93, mem. Committee of Fifteen); Phila. Hist. Ass. Mathematics; education; teaching.

Brooks, Dr. Harlow, 44 W. Ninth St, New York, N. Y. *Pathology, Medicine.* Medo, Minn, March 31, 61. M.D, Michigan, 95; Freiburg, 98. *Asst. prof. path, Univ. and Bellevue Hosp. Med. Col, 02–* Pathologist, N. Y. Zool. Park; Montefiore and St. Vincent's Hospitals; visiting physician,

N. Y. City Hosp. Ass. Path. and Bact; Soc. Exp. Biol. and Med; Ass. Mil. Surg; N. Y. Co. Med. Soc; N. Y. Acad. Med. Pathology.—Arteriosclerosis.

Brooks, John M(ilton), Birmingham, Ala. *Mathematics.* Cleveland, O, Jan. 19, 68. A.B, Princeton, 89, A.M, 91; Göttingen, 92–93; Leipzig, 93–94. Instr. math, Princeton, 91–92, 94–02; computer, U. S. Coast and Geod. Surv, 02–03; *pres, Birmingham Building and Improv. Co, 03–* Math. Soc.

Brooks, Prof. W(illiam) K(eith), Johns Hopkins University, Baltimore, Md. **Zoology.* Cleveland, O, March 25, 48. A.B, Williams, 70; Ph.D, Harvard, 75. Assoc, later assoc. prof. and *prof. zool, Hopkins, 76–* Commissioner to report to Gen. Assembly of Md. on the oysters of Md; scientific investigator, U. S. Fish Commission; collaborator, scientific results of voyage of 'Challenger.' Medal, Soc. d'Acclimatation; Challenger medal; LL.D, Williams and Hobart. Nat. Acad; F.A.A; Soc. Zool; Am. Acad; Philos. Soc. Marine zoology.—Id; principles of science.

Brooks, Dr. W(illia)m P(enn), Amherst, Mass. *Agronomy.* Norwell, Mass, Nov. 19, 51. B.S, Mass. Agr. Col, 75; Ph.D, Halle, 97. Prof. agr, Imp. Col. Agr, Sapporo, Japan, 77–89; prof. agr, *Mass. Agr. Col,* and agriculturist, *Hatch Exp. Sta,* 89–05, *acting pres. and director, 05–* Pres. ad. interim, Imp. Col. Agr, Japan, 80–83, 86–87; in charge, Home Correspondence Course in Agr, 01– Awards, Columbian and Pan-Am. Expositions. M.A.A. Plant nutrition.—Agriculture; poultry.

Brooks, Dr. William R(obert), Smith Observatory, Geneva, N. Y. *Astronomy, Physics.* Maidstone, England, June 11, 44. English and Am. pub. and private schools. *Director,* Red House Observatory, Phelps, N. Y, 74–88; *Smith Observatory, 88–, prof. astron, Hobart, 00–* Eight medals, Pacific Astron. Soc; ten Warner gold prizes; Lalande medal, Paris Acad; hon. A.M, Hobart, 91; Sc.D, Hamilton, 98. F.A.A; fel. Royal Astron. Soc; British Astron. Ass. Comets (24 discovered); charting and cataloguing nebulae; solar, planetary and double star observations.

Brower, Hon. J(acob) V(radenberg), 542 Wabaska St, St. Paul, Minn. *Archeology.* York, Mich, Jan. 21, 44. Pub. schools; admitted to bar, 72. County auditor, Minn, 67–74; county supt. schools and county attorney, Minn, 73–75; mem. Legislature, 74; register, U. S. Land Office, St. Cloud, 74–79; ed, 'Stearns Co. Tribune,' 82–85; pres, S.C.N.R.R. Co, 83–86; commissioner, Itasca Park, 91–95; special state examiner, 98–00; *chairman, Mus. Committee, and archeologist, Minn. Hist. Soc, 96–* Delegate, Int. Cong. Americanists, 02. Nat. Geog. Soc; Minn. Hist. Soc; Manchester (England) Geog. Soc. Ethnology; archeology; mound explorations; museum collections.—Archeological explorations in the basin of Mississippi River; ethnologic collections for museums.

Brown, Prof. Amos P(easlee), 20 E. Penn St, Germantown, Pa. *Geology, Mineralogy.* Germantown, Dec. 3, 64. B.S, Pennsylvania, 86, E.M, 87, Ph.D, 93. Asst, Pa. Geol. Surv, 87–89; instr. mining and metal, *Pennsylvania,* 89–93, prof. *geol. and miner,* Med. Dept, 92–98, asst. prof, 95–03, *prof, 03–* M.A.A; Min. Eng; Philos. Soc; Franklin Inst; Phila. Acad. Larval baculites; mineralogy; crystallography.—Structure of crystals; petrography.

Brown, Arthur Erwin, Zoological Gardens, Philadelphia, Pa. *Zoology.* Erwinna, Pa, Aug. 14, 50. Private study. Curator, Acad. Nat. Sciences, Phila, 92, v. pres, 00; manager, Wistar Inst. Anat, 00. F.A.A; Philos. Soc; Phila. Zool. Soc. (sec'y, 76); hon. mem. N. Y. Zool. Soc; cor. mem. London Zool. Soc. Herpetology; mammalogy.

Brown, Dr. Calvin S(mith), University, Miss. *Botany, Geology, Comparative literature.* Obion Co, Tenn, Feb. 13, 66. B.S, Vanderbilt, 88, M.S, 91, Sc.D, 92; Ph.D, Colorado, 99; Paris and Leipzig, 94–95; Spain, Italy and Greece, 03–04. Instr. English, Vanderbilt; comp. lit, Colorado, 98–00; German and English, Rutgers, 01; acting prof. modern languages, Mississippi, 02; acting *asst. prof. Romance languages,* Missouri, 04–05; *Mississippi, 05–* Collector of flora of Azores. M.A.A; Am. Dialect Soc; Modern Lang. Ass; Am. Civic Ass. English and comparative literature; coal flora of Tracy City, Tenn.—Tennessee forest and shade trees.

Brown, Charles Carroll, 408 Commercial Club Building, Indianapolis, Ind. *Civil engineering.* Austinburg, O, Oct. 4, 56. Cornell, 74–75; C.E, Michigan, 79. Prof. civil eng, Rose, 83–86; Union, 86–93; city engineer, Indianapolis, 93–95; asst. city engineer, Omaha, 96–97; asst. ed, '*Munic. Eng. Magazine,*' 97–99, *ed.-in-chief, 00–* Consulting engineer, N. Y. State Board of Health, 87–93, and for many cities; chairman, Bridge and Stream Improv. Commission, Indianapolis. Civil Eng; Soc. Munic. Improv; Soc. Testing Materials; Ind. Eng. Soc. (sec'y). Stream pollution; sewage disposal; sewerage; water supply; cement and its uses; geodetic surveys; paving; effect of variations of rainfall on water powers.—Calcareous cements and their uses; sewage disposal; water purification; wood pavements.

Brown, Prof. Charles S(umner), 139 Wesley Hall, Vanderbilt Campus, Nashville, Tenn. *Mechanical engineering.* East Hampton, Conn, Aug. 23, 60. Ph.B, Yale, 83, M.E, 88. Practising engineer, 84–88; instr. machine design and supt. workshops, Rose, 88–89, prof. steam eng. and machine design, 89–96; adj. prof. *mech. eng, Vanderbilt,* 96–98, *prof, 98–* Mech. Eng; Eng. Ass. of the South; Franklin Inst.

Brown, Charles W(ilson), Brown University, Providence, R. I. *Geology.* Overton, Nebr, Aug. 11, 74. Boston, 96–97; Ph.B, Brown, 00, A.M, 01; Harvard, 03–04. Student asst. geol,

Brown, 00–01; principal, High Sch, Warren, R. I, 01–03; instr. geol, Lehigh, 04–05; *instr. geol. and head of dept, Brown, 05–* Field asst, U. S. Geol. Surv, 02–03, geol. aid, 04–; asst. geol, Summer Sch, Harvard, 03. M.A.A. Geology of Wilmington, Vt; geology of Penobscot Bay; ore deposits and eruptive rocks of Lake City, Colo; geology of Mt. Desert Island, Me.

Brown, Prin. Edward L(eroy), 2555 W. 34th Ave, Denver, Colo. *Mathematics.* Columbus, O. Oct. 29, 66. A.B, Capital Univ, Columbus, 86; Ohio State, 87–88; A.M, Cornell, 90. Teacher math, Clinton Liberal Inst, Ft. Plain, N. Y, 90–91; Halsey Col. Inst, N. Y, 91–92; instr. math. and astron, Lehigh, 92–94; prof, Capital Univ, 94–96; instr. math, Colorado, 97–98; head, Dept. Math, *North Side High Sch, Denver, Colo,* 98–00, *principal, 00–* Lecturer math, Texas-Colo. Chautauqua, summer, 98. Math. Soc. The ellipse.

Brown, Prof. Elmer E(llsworth), University of California, Berkeley, Cal. *Education.* Kiantone, N. Y, Aug. 28, 61. A.B, Michigan, 89; Ph.D, Halle, 90. Acting asst. prof. science and art of teaching, Michigan, 91–92; *head, Dept. Educ, California, 92–,* assoc. prof. science and art of teaching, 92–93, *prof,* 93–98, *theory and practise of educ, 98–* Mem. State Board of Educ, Cal, 95– Silver medal, Paris, 00. Nat. Council Educ. (pres, 05–); Cal. Council Educ. History of American education; theory of education as related to public policy.

Brown, Prof. Ernest W(illiam), Haverford College, Haverford, Pa. **Mathematics.* Hull, England, Nov. 29, 66. A.B, Cambridge, 87, A.M, 91, fellow, Christ's Col, Cambridge, 89–95, Sc.D, 97. Instr. math, *Haverford,* 91–93, *prof,* applied math, 93–00, *math, 00–* Math. Soc. (ed, 'Trans,' 00–, mem. Council, 01); Philos. Soc; fel. Royal Soc; fel. Royal Astron. Soc; fel. London Math. Soc; fel. Cambridge Philos. Soc. Lunar theory; celestial mechanics.—A new lunar theory.

Brown, Prof. G(eorge) L(incoln), Brookings, S. Dak. *Mathematics, Astronomy.* Bates Co, Mo, Jan. 25, 69. B.S, Missouri, 92, fellow, 92–93, M.S, 93; fellow, Chicago, 94–96, Ph.D, 00. Instr. *math,* High Sch, Rock Island, Ills, 96; *prof, S. Dak. Agr. Col, 97–* Math. Soc. The linear transformation group of order 3 x 360.

Brown, Harry Fletcher, Parlin, N. J. *Chemistry.* Natick, Mass, July 10, 67. A.B, Harvard, 90, A.M, 92. Chief chemist, Torpedo Sta, Bur. of Ordnance, U. S. Navy Dept, 93–00; *Int. Smokeless Powder and Chemical Co, Wilmington, Del,* 00–01, *general supt, 01–* Directing chemist, E. I. Du Pont Co, Wilmington, Del, 04– Chem. Soc. Smokeless powder.

Brown, Dr. John W(esley), Massachusetts Institute of Technology, Boston, Mass. *Chemistry.* Rye, N. H, July 23, 77. B.S, Mass. Inst. Tech, 00; Ph.D, Heidelberg, 03. Asst. anal. chem, *Mass. Inst. Tech,* 00–01, *instr. theoret. chem, 03–* Chem. Soc. (treas, N. E. Sect, 04). Catalysis in sulfuric acid solution.—The properties of colloidal gold suspensions; physico-chemistry of sulfurous acid; velocity of the decomposition of hydrogen peroxid complex compounds.

Brown, Nathan Clifford, 9 Bowdoin St, Portland, Me. *Ornithology.* Portland, Oct. 13, 56. A.B, Bowdoin, 83. Fel. Ornith. Union. Distribution and habits of North American birds.

Brown, Prof. Oliver W, Bloomington, Ind. *Electrochemistry.* Vermillion Grove, Ills, June 25, 73. B.S, Earlham, 95; A.M, Indiana, 96; Cornell, 97–99; hon. fellow, Wisconsin, 03–04. Demonstrator chem, Ind. Dental Col. and chemist, J. N. Hurty Lab, Indianapolis, 96–97; asst. chem, Cornell, 98–99; instr. *electrochem. and quant. anal, Indiana,* 99–04, *asst. prof, 04–* Chemist, Muncie Pulp Co, Ind, 99. Electrochem. Soc. Preparation of potassium perselenate; distribution of mercuric chlorid between toluene and water; efficiency of the nickel-plating tank; electric smelting of zinc and molybdenum ores.

Brown, Dr. O(rville) H(arry), Cor. Grand Ave. and Caroline St, St. Louis, Mo. *Physiology, Pharmacology.* Sabetha, Kas, July 18, 75. A.B, Kansas, 01; Ph.D, Chicago, 05; M.D, St. Louis, 05. Lab. asst. physiol, Kansas, 01–02; asst, Chicago, 02–04; *asst. prof. pharmacol, St. Louis, 04–* Physiol. Soc. Effects of ions on enzymes and body processes.—Pharmacology.

Brown, Dr. Philip King, 1612 Van Ness Ave, San Francisco, Cal. *Medicine.* Napa, Cal, June 24, 69. A.B, Harvard, 90, M.D, 93. Assoc. prof. clin. med, California, 96–98, instr. animal path, Vet. Dept, 96–99; assoc. med. and instr. clin. path, Cooper Med. Col, 99–02; *instr. clin. path, California, 02–* Visiting physician and consulting pathologist to various hospitals, San Francisco; director, Miradero Sanatorium, Santa Barbara, Cal. Am. Physicians; Am. Med. Ass; Climat. Ass; Cal. Med. Soc; Cal. Acad. Med; San Francisco Co. Med. Soc. Blood conditions in leprosy and bone tuberculosis; pathology of the nervous system of animals; malarial fevers of the west coast of United States; intestinal parasites; muscular irritability in eclampsia.

Brown, Robert Marshall, 40 Windsor St, Worcester, Mass. *Geography, Geology.* Fisherville, Mass, March 11, 70. A.B, Brown, 93; A.M, Harvard, 02. Instr. sciences, High Sch, Portsmouth, N. H, 94–98, principal, 98–00; *instr.* sciences, High Sch, New Bedford, Mass, 02–03; *geog, Mass. State Nor. Sch, Worcester, 03–* Prof. geog, Summer Sch, North Carolina, 03; Marthas Vineyard Summer Inst, 04. M.A.A. Physical geography.—The Mississippi River.

Brown, Prof. S(timson) J(oseph), U. S. N, 47 Apshar Row, Naval Academy, Annapolis, Md. **Astronomy.* Penn Yan, N. Y, Sept. 17, 54. Cornell, 71–72; grad, U. S. Naval Acad, 76. Midshipman, *U. S. N,* 76–77, ensign, 77–83, *prof. math, 83–,* astron. director, U. S. Naval Observatory, 98–05, director, 'Nautical Almanac,' 00–05. F.A.A; Astron. and Astrophys.

Soc; Astron. Gesell. Observation of the 303 'Zusatz Sterne' of the 'Berliner Jahrbuch'; star list of the 'Berliner Jahrbuch'; observation of the satellites of Saturn, Mars and Neptune.

Brown, Prof. W(ilbur) V(incent), Greencastle, Ind. *Astronomy.* Hope, N. J, March 27, 60. B.S, Stevens, 80, Ph.D, 89. Asst. prof. math. and astron, *De Pauw,* 85–94, *prof.* astron, 94–96, *math. and astron. and director, Observatory, 96–* Determination of longitude, Greencastle to St. Louis; effect on collimation of a tip in the object glass; personal equation with single and double line reticles; the oblique sections of the anchor ring; use of a classified cabinet of weather maps in improving weather forecasts.

Brown, Dr. W(illiam) G(eorge), University of Missouri, Columbia, Mo. **Chemistry.* Newcastle-on-Tyne, England, Nov. 5, 53. B.S, Virginia, 77; Heidelberg, 80–81; Morgan fellow, Harvard, 84. Prof. chem, Tennessee, 77–83; instr, Virginia, 83–85; prof. chem. and physics, S. C. Mil. Acad, 85–86; chem, Washington and Lee, 86–94; asst. chemist, U. S. Dept. Agr, 94–96; *prof. chem, Missouri, 96–* Assoc. ed, Dept. Miner. and Petrog, 'Standard Dict.' Hon. Ph.D, North Carolina, 89. Chem. Soc. (v. pres, Wash. Sect.); fel. London Chem. Soc; Chem. Gesell. Analyses of minerals, rocks, etc; crystallography.—Reactions between metals and saline solutions.

Browne, Dr. Arthur Wesley, Cornell University, Ithaca, N. Y. *Chemistry.* Brooklyn, N. Y, Nov. 24, 77. B.S, Wesleyan, 00, M.S, 01; Ph.D, Cornell, 03. *Instr. chem, Cornell, 03–* Chem. Soc. A thermostat sensitive to one thousandth of a degree; synthetic analysis in ternary systems; resistance of glass tubing to bursting pressure.—Hydronitric acid and its derivatives; complex oxids of chromium and other elements; atomic weight of nitrogen.

Browne, Dr. C(harles) A(lbert), Jr, Audubon Park, New Orleans, La. *Agricultural chemistry.* North Adams, Mass, Aug. 12, 70. A.B, Williams, 92, A.M, 96; Ph.D, Göttingen, 01. Asst. chemist in commercial lab, N. Y. City, 92–94; instr. chem, Pa. State, 95–96; asst. chemist, Pa. Exp. Sta, 96–02; *chemist, La. Sugar Exp. Sta, 02–* Int. Cong. Applied Chem. M.A.A; Chem. Soc; Soc. Chem. Indust; Ass. Off. Agr. Chemists; Soc. Prom. Agr. Sci. Chemistry of butter-fat, apples, cider and vinegar, sugar-cane and sugar, rice, carbohydrates, etc.—Agriculture and technology of the sugar, rice and other industries of Louisiana; sugar analysis; nutrition investigations of rice.

Browne, J(ohn) J(oseph), Golden, Colo. *Mathematics.* Leitrim, Ireland, Dec. 16, 66. Univ. Col, Dublin; A.B, Royal Univ, Dublin, 99. Asst. prof, *math,* St. Patrick's Training Col, Dublin, 91–00; *instr, Colo. Sch. Mines, 03–* Tutor math, Univ. Col, Dublin; examiner to Board of Intermediate Educ, Ireland; asst. math, Colorado. Math. Soc. A particular method in centroids.

Browne, W(illia)m Hand, Jr, Care Electrical Review, 13 Park Row, New York, N. Y. *Electrical engineering.* Baltimore Co, Md, July 21, 68. A.B, Hopkins, 90, certificate in elec. eng, 92. Eng. work, 92–96; instr. elec. eng, Nebraska, 96–98; asst. prof, Illinois, 98–02; *technical ed, 'Elec. Rev,' 02–* Elec. Eng; Eng. Educ; Electrochem. Soc. Power factor indicators; mechanical computation of fall of potential.

Browning, Prof. Philip E(mbury), Yale University, New Haven, Conn. **Chemistry.* Rhinebeck, N. Y, Sept. 9, 66. A.B, Yale, 89, Ph.D, 92; Munich, 93–94. Asst. *chem, Yale,* 89–93, instr, 94–98, *asst. prof, 98–* F.A.A; Chem. Soc; Chem. Gesell. Analytical chemistry of the rarer elements.—Separation of the cerium earths.

Browning, Dr. William, 54 Lefferts Place, Brooklyn, N. Y. *Medicine, Neurology, Anatomy.* Norwich, Conn, July 7, 55. Ph.B, Yale, 76; diploma in anat, Pennsylvania, 78; M.D, Leipzig, 81. Science instr, Media Acad, 76–77; lecturer anat. and physiol. of nervous system, *Long Isl. Col. Med. Sch,* 87–00, *prof. neur, 01–* Interne, German Hosp, N. Y, 81–82; neurologist, Kings Co, Long Isl, Long Isl. State, German, Norwegian, Christopher's, St. John's, St. Catherine's, Brooklyn, Bushwick, and E. D. Hospitals. Soc. Nat; Ass. Anat; Neur. Ass; Ass. Med. Librarians; N. Y. State Med. Soc; Kings Co. Med. Soc. (pres, 01); Ass. Physicians of L. I. (pres, 98–99); Brooklyn Soc. Neur. (pres, 00); Brooklyn Inst. Brain and cord circulation; epilepsy; infectious peripheral paralyses; medical history; libraries.

Bruce, Dr. W(illiam) H(erschel), Denton, Tex. *Mathematics.* Troup Co, Ga, April 8, 56. A.B, Ala. Polytech, 83; Ph.D, Mercer. Principal, High Sch, Blanco, Tex, 84–93; supt. schools, Marble Falls, Tex, 93–96; Athens, Tex, 96–99; pres, John Tarleton Col, Stephenville, Tex, 99–00; *prof. math, North Tex. State Nor. Col, 01–* Conductor and instr, teachers' summer nor. schools, 92–01. Hon. A.M, Baylor. M.A.A; fel. Tex. Acad. Mathematics.—General geometry.

Bruēre, Dr. A(ndrew) Arthman, 199 Park Ave, Montreal, Can. *Toxicology, Hygiene.* Trinidad, W. I, Nov. 10, 64. M.D, Edinburgh, 90; Paris. *Lecturer med, McGill.* Director, Clin. Lab, Royal Victoria Hosp, Montreal. Ass. Path. and Bact. Sapotoxins; hydrogen selenid and tellurid; carbon monoxid.—Action of sapotoxins on the tissues.

Brues, C(harles) T(homas), Milwaukee Public Museum, Milwaukee, Wis. *Zoology.* Wheeling, W. Va, June 20, 79. B.S, Texas, 01, fellow, 01–02, M.S, 02; fellow, Columbia, 02–03. Special field agent, U. S. Dept. Agr, 04–05; *curator invert. zool, Milwaukee Pub. Mus, 05–* M.A.A; Wis. Nat. Hist. Soc; N. Y. Entom. Soc; Wash. Entom. Soc. Embryology, ethology and taxonomy of insects, especially of the Hymenoptera and Diptera; embryology of Stylopidae.—Taxonomy of Diptera and Hymenoptera.

Brumbaugh, Prof. M(artin) G(rove), 3324 Walnut St, Philadelphia, Pa. *Pedagogy.* Huntingdon Co, Pa, April 14, 62. Juniata, 78–81; Harvard, 90–92; A.M, Pennsylvania, 93, Ph.D, 94. County supt. of schools, Pa, 84–90; *pres, Juniata, 95–; prof. pedag, Pennsylvania, 95–* Commissioner of educ. for Porto Rico, 00–02. LL.D, Franklin and Marshall, 02. Pa. Hist. Soc. Pedagogy; history of Pennsylvania.—Beginnings of German-American literature and science as shown in the curricula of schools.

Bruner, Frank G, 808 Tribune Building, Chicago, Ills. *Psychology.* Streator, Ills, March 28, 74. Fellow, A.B, Nebraska, 03. Supt. schools, Dwight, Ills, 99–01; *asst.* psychol, Nebraska, 02–03; Columbia, 03–05; *Dept. Child-study, pub. schools, Chicago, 05–* Asst. supt, Sect. Psychometry and Anthropometry, La. Purchase Expos, 04. Psychol. Ass. Color range of adults.—Accuracy of reflex adjustments; the hearing of the Filipino, Indian, Pigmy, Ainu and White.

Bruner, Prof. H(enry) L(ane), Irvington, Indianapolis, Ind. *Biology.* Knox Co, Ills, Jan. 10, 61. A.B, Abingdon, 80; Sheffield Sci. Sch, Yale, 80–81; Ph.D, Freiburg, 96. Instr. nat. science, Abingdon, 81–84; *prof,* Eureka, 84–86; *biol. and geol,* Drake, 91–92; *Butler, 92–* Asst, U. S. Fish Commission, summers, 81–84. M.A.A; Soc. Zool; Ind. Acad. Nasal muscles of Amphibia; heart of lungless salamanders.—Nasal muscles of Reptilia; blood sinuses of head of Reptilia.

Bruner, Prof. Lawrence, 2314 S. 17th St, Lincoln, Nebr. *Entomology, Ornithology.* Catasauqua, Pa, March 2, 56. B.S, Nebraska. Field agent, U. S. Dept. Agr, 80–88; entomologist, Nebr. Agr. Exp. Sta, 88–90; instr. entom, *Nebraska,* 90–95, *prof. entom. and ornith, 95–* Investigator locust plague, Argentine Rep, 97–98. F.A.A; mem. Ornith Union; Ass. Econ. Entom; etc. Locusts; life histories of insects; Nebraska birds; locusts of Paraguay; locusts of Argentina.

Brunton, D(avid) W(illiam), 865 Grant Ave, Denver, Colo. *Geology.* Ayr, Ont, June 11, 49. Michigan, 75. Consulting engineer; *pres, Taylor and Brunton Ore Sampling Co, 04–* Telford medal, Civil Eng, 97. M.A.A; Min. Eng; Civil Eng; Colo. Sci. Soc; Mont. Soc. Eng; Royal Geog. Soc. Valuation and treatment of gold, silver, lead and copper ores; electric power in mining and metallurgical operations.

Brush, Dr. Charles F(rancis), 1003 Euclid Ave, Cleveland, O. **Physics.* Euclid, O, March 17, 49. M.E, Michigan, 69; Ph.D, Western Reserve, 80. Founder, Brush Elec. Co; *elec. engineer and inventor.* Pres. or director of various corporations. Rumford medal, 99; Chevalier Légion d'honneur, 81; hon. M.S, Michigan, 99; LL.D, Western Reserve, 00; Kenyon, 03. F.A.A; Elec. Eng; Mech. Eng; Chem. Soc; Franklin Inst; British Ass. Electricity; invented practical electric arc lighting; molecular physics.—The light gases of the atmosphere.

Brush, Prof. George Jarvis, 14 Trumbull St, New Haven, Conn. **Mineralogy.* Brooklyn, N. Y, Dec. 15, 31. Ph.B, Yale, 52; Munich, 53–54; Royal Saxony Sch. Mines, 54–55; Govt. Sch. Mines, London, 55–56. Prof. metal, *Sheffield Sci. Sch, Yale,* 55–71, *miner,* 64–98, *emer. prof, 98–* Director, Sheffield Sci. Sch, Yale, 72–99. Hon. A.M, Yale, 57; LL.D, Harvard, 86. Nat. Acad; F.A.A. (pres, 81); Soc. Nat; Am. Acad; Philos. Soc; Conn. Acad; N. Y. Acad; London Geol. Soc; cor. mem. Edinburgh Geol. Soc; St. Petersburg Imperial Miner. Soc; Bavarian Royal Acad. Chemical composition of American minerals.

Bryan, Dr. Thomas J(oseph), Champaign, Ills. *Chemistry.* Warwickshire, England, Sept. 26, 69. A.B, Colgate, 93, A.M, 95; Göttingen, 99; Heidelberg, 00; Ph.D, Freiburg, 01. Asst. *chem,* Colgate, 93–99; Wesleyan, 01–02; *instr,* Williams, 02–03; *Illinois, 03–* Action of mustard oils on phenols.—Derivatives of diphenyl.

Bryan, Pres. William Lowe, 812 North College Ave, Bloomington, Ind. **Psychology.* Bloomington, Nov. 11, 60. A.B, Indiana, 84, A.M, 86; Berlin, 86–87; Ph.D, Clark, 92; Paris and Würzburg, 00–01. Instr. Greek, *Indiana,* 85, assoc. prof. philos, 85–87, prof, 86–02, v. pres, 93–02, *pres, 02–* F.A.A; Soc. Nat; Psychol. Ass. (pres, 03); Philos. Ass. Experimental psychology; the development of motor ability; the psychology of occupations.—The psychology of occupations.

Bryant, Arthur P(eyton), 661 Winthrop Ave, Chicago, Ills. *Chemistry.* South New Market, N. H, May 7, 68. B.S, Wesleyan, 92, M.S, 95. Instr. math. and science, English and Classical High Sch, Providence, R. I, 92–93; chem, Swarthmore, 93–94; with U. S. Dept. Agr, 95–02; *chief chemist, Glucose Sugar Refining Co, and Nat. Starch Co, 02–* Chem. Soc; Soc. Chem. Indust. Starch and its hydrolytic products.

Bryant, Prof. Ernest C(alvin), Middlebury, Vt. *Mathematics, Physics.* Manchester, N. H, April, 22, 67. B.S, Middlebury, 91; B.S, Mass. Inst. Tech, 93. With Can. Bridge and Iron Co, 93–94; *prof. math. and physics, Middlebury, 95–* Physical Soc.

Bryant, Henry G(rier), 2013 Walnut St, Philadelphia, Pa. *Geography.* Allegheny City, Pa, Nov. 7, 59. A.B, Princeton, 83, A.M, 86; LL.B, Pennsylvania, 86. In charge, Labrador Exped, 91; Peary Auxil. Exped, 94; Mt. St. Elias Exped, 97. Int. Geog. Cong, Berlin, 99 (v. pres.). F.A.A; Geog. Ass; Philos. Soc; Am. Alpine Club (sec'y); Phila. Geog. Soc. (pres, 99–01, 04–05); fel. Royal Geog. Soc; cor. mem. Swedish Soc. Anthrop. and Geog; cor. mem. Soc. de Géog. de Genève. Geographical exploration; ethnology.—Drift casks to determine arctic currents.

Bryant, Dr. W(illia)m M(cKendree), Webster Groves, Mo. *Philosophy, Ethics.* Lake Co, Ind,

March 31, 43. A.B, Ohio Wesleyan, 69, A.M, 71. Supt. schools, Burlington, Ia, 70–73; *teacher, pub. schools, St. Louis, 73–, instr. psychol, ethics and hist, 81–* Adjutant, 34th Ia. Vol. Inf, 62–64; asst. adjt. gen. of brigade, 64. Ed, 'Am. Jour. of Educ,' 97. LL.D, Missouri, 94. Acad. Polit. and Social Sci; Am. Hist. Ass; West. Philos. Ass. Psychology; metaphysics; history.

Buchanan, Roberdeau, 2015 Q St, Washington, D. C. *Mathematics, Astronomy, Genealogy.* Philadelphia, Pa, Nov. 22, 39. B.S, Harvard, 61. Constructing engineer, 61–72; U. S. Patent Office, 73–78; *computer, 'Nautical Almanac' Office, U. S. Naval Observatory, 79–* Eclipses; planets; star numbers.—Id; genealogy.

Bucher, Prof. John E(mery), 120 Taber Ave, Providence, R. I. *Chemistry.* Hanover, Pa, Aug. 17, 72. A.C, Lehigh, 91; Ph.D, Hopkins, 94. Instr. *chem,* Tufts, 94–97; *assoc. prof,* R. I. Col. Agr, 97–01; *Brown, 01–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Organic chemistry.—Action of acetic anhydrid on unsaturated acids.

Buchner, Dr. Edward F(ranklin), University of Alabama, Tuscaloosa, Ala. **Psychology, Philosophy.* Paxton, Ills, Sept. 3, 68. A.B, Western, 89; Ph.D, Yale, 93. Lecturer pedag. and philos, Yale, 92–94, instr, 94–97; prof. anal. psychol, N. Y. Univ, 96–01; docent *philos,* Clark, 01–03; *prof, Alabama, 03–* Asst, Psychol. Lab, Columbian Expos, 93; lecturer psychol, Brooklyn Inst, 98–00. F.A.A; Soc. Nat; Psychol. Ass; Philos. Ass; Soc. Sci. Educ; S. Soc. Philos. and Psychol. (sec'y); fel. N. Y. Acad. Kant's psychology; Kant's educational theory.

Buck, Dr. A(lbert) H(enry), 105 E. 19th St, New York, N. Y. *Otology.* New York, Oct. 20, 42. A.B, Yale, 64; M.D, Columbia, 67. Aural surgeon, N. Y. Eye and Ear Infirmary, 71–83; prof. otol, Columbia, 87–04. Consulting aural surgeon, N. Y. Eye and Ear Infirmary and Presbyterian Hosp. Otol. Soc; N. Y. Otol. Soc. Diseases of the ear.

Buck, Harold Winthrop, 123 Buffalo Ave, Niagara Falls, N. Y. *Electrical engineering.* New York, N. Y, May 7, 73. Ph.B, Yale, 94; E.E, Columbia, 95. *Elec. engineer,* Gen. Elec. Co, 95–00; *Niagara Falls Power Co, 00–* Elec. Eng. Electrical science and engineering.

Buckhout, Prof. William A, State College, Pa. *Botany, Horticulture, Forestry.* Oswego, N. Y, Dec. 26, 46. B.Agr, Pa. State, 68, M.S, 71, Sc.D, 04. *Prof.* nat. hist, *Pa. State,* 71–81, *bot. and hort, 81–* Mem. State Forestry Commission, 88; lecturer, Farmers' Institutes. F.A.A. Phytopti; the effect of smoke and gas on vegetation.

Buckingham, Edgar, Bureau of Soils, Washington, D. C. *Physics.* Philadelphia, Pa, July 8, 67. A.B, Harvard, 87; Strasburg, 89–90; Ph.D, Leipzig, 93. Asst. physics, Harvard, 88–89; Strasburg, 89–90; Harvard, 91–92; assoc. physics and physical chem, Bryn Mawr, 93–98, asst. prof, 98–99; instr. physics, Wisconsin, 01–02; *asst. physicist, Bur. of Soils, U. S. Dept. Agr, 02–* Physical Soc; Wash. Philos. Soc. Thermodynamics.

Buckley, Dr. E(rnest) R(obertson), Rolla, Mo. **Geology.* Milbury, Mass, Sept. 3, 72. B.S, Wisconsin, 95, fellow, 95–97, Ph.D, 98. Asst. geologist, Wis. Geol. and Nat. Hist. Surv, 97–98, geologist in charge econ. geol, 98–00, asst. supt. in charge, 00–01; *director, Mo. Bur. Geol. and Mines, and state geologist, 01–* Instr, Summer Sch, Wisconsin, 98; lecturer geol, Univ. Exten, 98–01; non-metallic mineral resources, Chicago, 04, 05. F.A.A; Geol. Soc; Min. Eng; Min. Cong; Soc. Testing Materials; Wis. Acad; Wash. Acad. Chemical and physical properties of building stones and clays; materials for road construction; effects of changing temperature on the ice sheets covering small inland lakes.—Paleozoic stratigraphy of central Missouri; origin of the disseminated lead of southeastern Missouri; the lead and zinc deposits of southwestern Missouri.

Budgett, Dr. S(idney) P(ayne), 4374 Washington Boulevard, St. Louis, Mo. *Physiology.* Westbury-on-Trym, England, Oct. 31, 62. Winchester, 76–79; M.D, Michigan, 95. Asst. physiol, Michigan, 91–95; asst. prof. physiol. and histol, *Med. Dept, Washington (St. Louis),* 95–96, *prof,* 96–99, *physiol, 99–* Soc. Nat; Physiol. Soc.

Budington, Robert A(llyn), Leyden, Mass. *Zoology.* Leyden, Oct. 22, 72. A.B, Williams, 96, A.M, 99; Columbia, 99–00. Asst. zool, Williams, 98–99; asst. demonstrator physiol, Columbia, 00–02; *instr.* zool, Woods Hole, 00–04; *zool. and physiol, Mt. Hermon Sch, 03–* M.A.A. Physiological characteristics of annelid muscles.—Nervous control of lamellibranch hearts; the yolk nucleus in ovarian eggs of dragon-flies.

Buffum, Prof. Burt C, Laramie, Wyo. *Agriculture.* South Bend, Ind, April 7, 68. B.S, Colo. Agr. Col, 90, M.S, 93. Asst. irrig. eng, Colo. Agr. Col, 90–91; prof. hort, Wyoming, 91–94, agr. and hort, 94–00, v. director, Wyo. Exp. Sta, 95–00; *prof.* agr, Colo. Agr. Col, 00–02; *agr. and hort, Wyoming, and director, Wyo. Exp. Sta, 02–* In charge, Wyo. Agr. Exhibit, Columbian Expos, 93; ed, 'Agricola Aridus'; 'Ranchman's Reminder'. M.A.A; Soc. Prom. Agr. Sci; life mem. Pomol. Soc. Irrigation; agriculture; alkali salts in soil.—Feeding problems with western live stock.

Bull, Dr. Charles Stedman, 47 W. 36th St, New York, N. Y. *Ophthalmology.* New York. A.B, Columbia, 64, A.M, 67, M.D, 68. Surgeon, Charity Hosp, 75–80; *prof. ophthal,* N. Y. Univ, 90–98; *Med. Col, Cornell, 98–* Consulting ophthal. surgeon to St. Luke's, Presbyterian and St. Mary's Hospitals; surgeon, N. Y. Eye Infirmary. Ophthal. Soc; Am. Med. Ass; N. Y. State Med. Ass; N. Y. Co. Med. Soc; N. Y. Ophthal. Soc; N. Y. Acad. Med; N. Y. Practi-

tioners Soc. Ophthalmic medicine, surgery and pathology.

Bull, Prof. Storm, 141 W. Gorham St, Madison, Wis. *Steam engineering.* Bergen, Norway, Oct. 20, 56. M.E, Polytech, Zürich, 77. Draftsman, Bergen, Norway, 77–79; instr. mech. eng, *Wisconsin,* 79–84, asst. prof, 84–86, *prof,* 86–90, *steam eng, 90–* Mem. and v. pres. Jury of Awards, Paris Expos, 00; mem. and acting pres, Jury of Awards, La Purchase Expos, 04; alderman, Madison, 98–00, mayor, 01–02. Chanute medal, West. Soc. Eng, 03. F.A.A. (v. pres, 99); Mech. Eng; Eng. Educ. (v. pres, treas.); West. Soc. Eng; West. Ry. Club. Steam engineering.—Superheated steam.

Bullard, Prof. Warren Gardner, 613 S. Crouse Ave, Syracuse, N. Y. *Mathematics.* Hinsdale, N. Y, Feb. 25, 67. A.B, Brown, 92; Ph.D, Clark, 96. Instr. *math,* Free Acad, Elmira, N. Y, 92–93; St. Lawrence, 94; Vermont, 96–00; *Syracuse,* 00–01, *assoc. prof, 01–* M.A.A; Math. Soc; Math. Verein; Circolo Mat. di Palermo. Plane curves.—Cubic and quartic curves.

Bumpus, Prof. H(ermon) C(arey), Boulevard, Rochelle Park, New Rochelle, N. Y. **Biology.* Buckfield, Me, May 5, 62. Ph.B, Brown, 84; fellow, Clark, 89–90, Ph.D, 91. Prof. biol, Olivet, 86–89; asst. prof. zool, Brown, 90–91, assoc. prof, 91–92, prof. comp. anat, 92–01; asst. to pres. and curator invert. zool, *Am. Mus. Nat. Hist,* 01–02, *director, 02–* Asst. director, Woods Hole, 93–95; director, Biol. Lab, U. S. Fish Commission, 98–01; mem. Board of Fellows, Brown, 05– Hon. Sc.D, Tufts and Brown, 05. F.A.A; Soc. Nat; Soc. Zool. (pres, 03); assoc. Ornith. Union; Fisheries Soc; Nat. Ass. Audubon Societies; Nat. Geog. Soc; N. Y. Audubon Soc. (v. pres, 05); N. Y. Linnean Soc; fel. N. Y. Acad. (sec'y, 05); N. Y. Zool. Soc; Wash. Acad; Boston Soc. Nat. Hist; N. Y. Bot. Garden; hon. mem. R. I. Med. Soc. Heredity; marine biology.—Larval development of the lobster.

Bumstead, Dr. Henry A(ndrews), 45 Edgehill Road, New Haven, Conn. *Physics.* Pekin, Ills, March 12, 70. A.B, Hopkins, 91; Ph.D, Yale, 97. Instr. *physics, Sheffield Sci. Sch, Yale,* 93–00, *asst. prof, 00–* Physical Soc; Conn. Acad.

Bunting, Dr. C(harles) H(enry), Johns Hopkins Hospital, Baltimore, Md. *Pathology.* La Crosse, Wis, May 22, 75. B.S, Wisconsin, 96, fellow, 96–97; M.D, Hopkins, 01. Asst. demonstrator *path,* Pennsylvania, 02–03; asst, *Hopkins,* 03–04, instr, 04–05, *assoc, 05–* Ass. Path. and Bact; Ass. Anat. Hematology.

Bunting, Dr. Martha, 610 W. 113th St, New York, N. Y. *Biology.* Philadelphia, Pa, Dec. 2, 61. B.L, Swarthmore, 81; Pennsylvania, 88–91; Bryn Mawr, 91–93; Woods Hole, 91, 92; Ph.D, Bryn Mawr, 95; Columbia, 98–99; Woods Hole, 99. Instr. *biol,* Woman's Col. of Baltimore, 93–97; head teacher, Girls' High Sch, Phila, 97–98; *asst. teacher, Wadleigh High Sch, N. Y, 00–* N. Y. State Teachers' Ass; N. Y. Ass. Biol. Teachers; N. Y. Teachers' Ass; Phila. Geog. Soc. Origin of sex cells in Hydractinia and Podocoryne; development of Hydractinia; über die Bedeutung der Otolithenorgane für die geotropischen Functionen von Astacus; structure of the cork tissues in roots of some rosaceous genera.—Spermatogenesis in lobster.

Burbank, Luther, 204 Santa Rosa Ave, Santa Rosa, Cal. *Plant evolution.* Lancaster, Mass, March 7, 49. Private schools. Hon. lecturer plant evolution, Stanford. Gold medal, Pan-Am. Expos, 01; Cal. Acad. Sciences; and others. F.A.A; Pomol. Soc. (v. pres.); hon. mem. Breeders' Ass; hon. mem. Cal. Floral Soc. Scientific improvement of trees, fruits, flowers, vegetables, grains, grasses, etc.

Burckhalter, Cha(rle)s, 1224 Linden St, Oakland, Cal. *Astronomy.* Taylorsville, O, Jan. 5, 49. High Sch. and special study. *Astronomer in charge, Chabot Observatory, 85–* Pacific Astron. Soc. (past pres. and sec'y); Cal. Acad; British Astron. Ass; fel. Royal Astron. Soc. Solar corona; stellar photography.

Burgess, A(lbert) F(ranklin), State House, Columbus, O. *Entomology.* Rockland, Mass. B.S, Mass. Agr. Col, 95, M.S, 97. Asst. entomologist, Mass. State Board of Agr, 95–99; asst. entom, Illinois, 99–00; asst. inspector of *nurseries and orchards, Ohio,* 00–02, *chief inspector, 02–* Ass. Econ. Entom. (sec'y, 02); Ohio Acad. Economic entomology; insecticides and fungicides; horticulture.—Insecticides and fungicides.

Burgess, Prof. C(harles) F(rederick), 209 W. Gilman St, Madison, Wis. *Electrochemistry.* Oshkosh, Wis, Jan. 5, 73. B.S, Wisconsin, 95, E.E, 98. Instr. elec. eng, *Wisconsin,* 95–00, asst. prof, 00–04, assoc. prof, 04–05, *prof. applied electrochem, 05–* Electrochem. Soc. (v. pres.); Elec. Eng; Chem. Soc; Soc. Chem. Indust; Eng. Educ. Electrolytic rectifiers; electrolytic purification of iron; separation and concentration of ores; electric furnace appliances.

Burgess, Prof. Edward S(andford), 11 W. 88th St, New York, N. Y. *Botany.* Little Valley, N. Y, Jan. 19, 55. A.B, Hamilton, 79; fellow, Hopkins, 81–82; A.M, Hamilton, 82; Ph.D, Columbia, 99. Instr. bot, Del. Lit. Inst, Franklin, N. Y, 79–80; high schools, Washington, D. C, 82–95; *prof. nat. science, N. Y. City Nor. Col, 95–* Instr. bot, Summer Inst, Marthas Vineyard, 80–95; Hopkins, 85. Hon. Sc.D, Hamilton, 04. F.A.A; Nat. Geog. Soc; Folk-lore Soc; Am. Scenic and Hist. Preserv. Soc; Torrey Bot. Club (sec'y, 97); Wash. Geol. Soc. Asters and related Compositae; Algae; local history, folk-lore and nomenclature.—Flora, Indian history and locality-lore of Marthas Vineyard; asters of the United States; plant-lore of the Potomac.

Burgess, Dr. Geo(rge) K(imball), Bureau of Standards, Washington, D. C. *Physics.* Newton, Mass, Jan. 4, 74. B.S, Mass. Inst. Tech,

96, fellow, 98–00; Sc.D, Paris, 01. Asst. physics, Mass. Inst. Tech, 96–98; instr, Michigan, 00–01; California, 01–03; asst. physicist, *Bur. Standards*, 03–05, *assoc. physicist, 05–* Physical Soc. Gravitation constant; vapor pressure of solutions.—Pyrometry and thermometry.

Burgess, Prof. T(homas) J(oseph) W(orkman), Protestant Hospital for Insane, Montreal, Can. *Botany, Psychology.* Toronto, Can, March 11, 49. Upper Canada, 63–66; M.B, Toronto, 70. Surgeon, Her Majesty's B.N.A. Boundary Commission, 71–76; asst. med. supt, London Asylum, 75–87; Hamilton Asylum, 87–90; *med. supt, Protestant Hosp. for Insane, 90–;* lecturer *mental diseases, McGill*, 93–99, *prof, 99–* Pan.-Am. Med. Cong, 96 (hon. sec'y). F.A.A; Medico-Psychol. Ass. (pres, 04); cor. mem. Torrey Bot. Club; fel. Can. Royal Soc. (pres, Nat. Sci. Sect, 98); Can. Inst; hon. mem. Hamilton Lit. and Sci. Ass. Botany; psychology.

Burk, Dr. Frederic (Lister), 156 De Long Ave, San Francisco, Cal. *Pedagogy.* Blenheim, Can, Sept. 1, 62. B.L, California, 83, grad. student, 90–91; A.M, Stanford, 92; Ph.D, Clark, 98. Teacher, Cal. schools, 89–91; principal, Santa Rosa, Cal, 92–96; city supt, Santa Barbara, 98–99; *pres, San Francisco State Nor. Sch, 99–* Mem. Cal. State Board of Educ, 99–Nat. Soc. Sci. Study of Children; Cal. State Teachers' Ass. (pres, 99); Cal. Council Educ. (pres, 02–). Psychology of children; growth of children; growth of nervous systems; normal school instruction; kindergartens.

Burnett, Dr. C(harles) T(heodore), Brunswick, Me. *Psychology.* Springfield, Mass, June 24, 73. A.B, Amherst, 95; A.M, Harvard, 00, Ph.D, 03. Asst. *philos*, Harvard, 00–02; *instr, Bowdoin, 03–* M.A.A; Psychol. Ass. Influences modifying the judgment of numbers.—Psychophysics of the motor impulse.

Burnett, Prof. E(dgar) A(lbert), 3206 Holdrege St, Lincoln, Nebr. *Agriculture.* Oakland Co, Mich, Oct. 17, 65. B.S, Mich. Agr. Col, 87. Instr. agr, Mich. Agr. Col, 89–91, asst. prof, 91–93; *prof*, S. Dak. Agr. Col, 96–99; *animal husbandry, Nebraska, 99–, assoc. dean, Indust. Col, and director, Agr. Exp. Sta, 01–* Supt, Farmers' Institutes, Nebr. Soc. Prom. Agr. Sci. Feeding animals.

Burnett, Dr. S(amuel) H(oward), New York State Veterinary College, Ithaca, N. Y. *Pathology, Bacteriology.* Webster, N. Y, Nov. 18, 69. A.B, Cornell, 92, M.S, 96, D.V.M, 02. Instr. biol, Fairmount, 96–98; asst. *comp. path. and bacter, Cornell*, 99–01, *instr, 01–* Ass. Path. and Bact. Clinical hematology of domesticated animals; comparative morphology of the blood.

Burnham, Prof. Sherburne Wesley, Yerkes Observatory, Williams Bay, Wis. **Astronomy.* Thetford, Vt, Dec. 12, 38. A.M, Yale, 78. Observer, Dearborn Observatory, 77–81; Washburn Observatory, 81–82; Dearborn Observatory, 82–84; astronomer, Lick Observatory, 88–92; *prof. practical astron, Chicago, and astronomer, Yerkes Observatory, 02–* Gold medal, Royal Astron. Soc, 94. Assoc. fel. Am. Acad; assoc. Royal Astron. Soc. Double stars.

Burnham, Dr. W(illia)m H(enry), 100 Chatham St, Worcester, Mass. *Psychology, Education.* Dunbarton, N. H, Dec. 3, 55. A.B, Harvard, 82; Ph.D, Hopkins, 88. Instr, Wittenberg, 82–83; State Nor. Sch, Potsdam, N. Y, 83–85; instr. psychol, Hopkins, 88–89; docent, *Clark*, 90–92, instr. *pedag*, 92–00, *asst. prof, 00–* Lecturer, various schools and teachers' assemblies. Soc. Nat; Psychol. Ass; Soc. Sci. Educ. Educational psychology; memory; school hygiene.—School hygiene.

Burns, Dr. George P(lumer), 117 N. State St, Ann Arbor, Mich. *Botany.* Maroa, Ills, Oct. 30, 71. B.S, A.M, Ohio Wesleyan, 98; Ph.D, Munich, 00. *Instr. bot*, Ohio Wesleyan, 97–98; *Michigan, 02–* Soc. Plant Morph. and Physiol. Ecology; anatom-physiological study of Stylidiaceae; influence of external condition on form and structure of leaves; traumatism of roots.

Burr, Dr. Charles W, 1327 Spruce St, Philadelphia, Pa. *Neurology.* Philadelphia, Nov. 16, 61. B.S, Pennsylvania, 83, M.D, 86. *Prof. mental diseases, Pennsylvania, 01–* Neurologist, Phila. Hosp. Neur. Ass; Phila. Neur. Soc. (past pres.); Phila. Path. Soc. (past pres.); Phila. Col. Physicians. Nervous pathology.

Burr, Prof. W(illiam) H(ubert), 151 W. 74th St, New York, N. Y. *Civil engineering.* Watertown, Conn, July 14, 51. C.E, Rensselaer, 72. Practising civil engineer, 72–76; prof. rational and tech. mech, Rensselaer, 76–84; asst. to chief engineer and later gen. manager, Phoenix Bridge Co, 84–91; *prof.* eng, Harvard, 92–93; *civil eng, Columbia, 93–* Mem. Board of Consulting Engineers, Isthmian Canal Commission; consulting engineer, various municipal departments, N. Y. City, 93– F.A.A; Civil Eng; British Inst. Civil Eng. Civil engineering.

Burrage, Prof. Severance, 113 Waldon St, West Lafayette, Ind. *Sanitary science, Bacteriology.* West Newton, Mass, July 18, 68. B.S, Mass. Inst. Tech, 92. Asst. biol, Mass. Inst. Tech, 92–93; asst. biologist, Mass. State Board of Health, 93–95; *asst. prof. sanit. science, Purdue, 95–* Lecturer micros. exam. drinking water, Mass. Inst. Tech, 93–95; hygiene and sanit, Training Sch, St. Elizabeth's Hosp, Lafayette, Ind, 97–; Ind. State Soldiers' Home Hosp, 00– Pub. Health Ass; Bot. Cent. States; fel. Ind. Acad; Ind. Eng. Soc; hon. mem. Ind. Med. Soc; hon. mem. Tippecanoe Co. (Ind.) Med. Soc. Bacteriology; sanitation.

Burrell, Dr. Herbert L(eslie), 22 Newbury St, Boston, Mass. *Surgery.* Boston, April 27, 56. M.D, Harvard, 79. Asst. prof. surg, *Harvard Med. Sch*, 99–03, *prof. clin. surg, 03–* Visiting surgeon, Boston City Hosp; surgeon, Children's Hosp; consulting surgeon, Carney Hosp. M.A.A; Ass. Path. and Bact; Surg. Ass; Am.

Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci; Boston Soc. Med. Improv. Surgery.

Burrill, Prof. T(homas) J(onathan), 1007 W. Green St, Urbana, Ills. **Botany, Bacteriology.* Pittsfield, Mass, April 25, 39. Grad, Ills. State Nor. Univ, 65. *Prof.* bot. and hort, *Illinois, 68–02, bot, 02–, v. pres, 79–, dean, Grad. Sch, 94–* Hon. Ph.D, Chicago, 81; LL.D, Northwestern, 93. F.A.A; Soc. Nat; fel. Micros. Soc. (pres, 85–86, 03–04); Mycol. Soc; Bot. Cent. States; fel. Royal Micros. Soc. Parasitic diseases of plants; bacteriology of water; aerial disinfection.—Bacteriology of Chicago drainage waters; disinfection processes and apparatus.

Burt, Prof. E(dward) A(ngus), Middlebury, Vt. **Botany.* Athens, Pa, April 9, 59. A.B, Harvard, 93, A.M, 94, Ph.D, 95. Teacher, Albany Acad, 80–85; *prof.* nat. science, N. Y. State Nor. Sch, Albany, 85–91; *nat. hist, Middlebury, 95–* Examiner nat. science for Regents, Univ. State of N. Y, 83–86; mem. Construction Committee, Middlebury Water Works, 00–02. F.A.A; Bot. Soc; Soc. Plant Morph. and Physiol; Micros. Soc; Mycol. Soc; New Eng. Bot. Club; Int. Ass. Bot. Morphology and physiology of Phalloideae and other fungi; taxonomy of Basidiomycetes.—North American Thelephoraceae.

Burton, Prof. A(lfred) E(dgar), 491 Boylston St, Boston, Mass. *Geodesy, Topographical surveying.* Portland, Me, March 24, 57. B.S, Bowdoin, 78, C.E, 81. Aid, U. S. Coast and Geod. Surv, 79–82; instr. *topog. eng, Mass. Inst. Tech,* 82–84, asst. and later assoc. prof, 84–96, *prof, 96–, dean, 02–* Mem. Mass. Topog. Surv. Committee, 95–01; in charge, Scientific Exped. to Greenland, 96; Eclipse Exped. to Ga, 00; Mass. Inst. Tech. Eclipse Exped. to Sumatra, 01. Astron. and Astrophys. Soc; Civil Eng; fel. Am. Acad; Nat. Geog. Soc. Geodetic measurements.—Base line apparatus.

Burton, Hon. Theodore E, Society for Savings Building, Cleveland, O. *Economics, Political history.* Jefferson, O, Dec. 20, 51. Iowa (Grinnell); A.B, Oberlin, 72, A.M, 75. *Member of Congress,* 89–91, *95–* LL.D, Oberlin, 00. F.A.A.

Burton-Opitz, Prof. R(ussell), 437 W. 59th St, New York, N. Y. *Physiology.* Fort Wayne, Ind, Oct. 25, 75. M.D, Rush Med. Col, Chicago, 95, B.S, Chicago, 98; Vienna, 98; Naples Zool. Sta, 01; M.S, Chicago, 02, Ph.D, 05. Asst. *physiol,* Breslau, 98–01; Harvard, 01–02; asst. and instr, *Columbia,* 02–04, *adj. prof, 04–* Subeditor, 'Biochem. Centralblatt' and 'Biophysik. Centralblatt.' F.A.A; Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; Chem. Soc; Harvey Soc. Physiology of the circulation and secretion.—Viscosity of the blood in fever and diabetes.

Busch, Dr. F(rederick) C(arl), 145 Allen St, Buffalo, N. Y. *Physiology.* Buffalo, Dec. 12, 73. B.S, Cornell, 95; M.D, Buffalo, 97; Bern, 99–00. Asst, N. Y. State Path. Lab, 98; lecturer *physiol, Buffalo,* 98–99, *prof, 00–* M.A.A; Physiol. Soc; Am. Med. Ass. Specific gravity of blood; lymph flow; fibrillation of dog's heart; lymphomatous tumors of dog's spleen.—Corpuscles of dog's blood; transplantation of adrenals; action of diuretics on excised kidneys.

Busck, August, U. S. Department of Agriculture, Washington, D. C. *Entomology.* Randers, Denmark, Feb. 18, 70. Ordrup Col, Denmark, 87–89; A.M, Ph.B, Copenhagen, 93. Instr. zool. and math, Ordrup Col, 89–93; *asst, Div. Entom, U. S. Dept. Agr, 96–* Ass. Econ. Entom; Wash. Entom. Soc; Stockholm Entom. Soc; Copenhagen Entom. Soc; Acad. Citizen of Royal Univ, Copenhagen. American Tineina, Gelechiidae and Gracilariidae.—Occophoridae.

Bush, Dr. Katharine J(eannette), 133 Howe St, New Haven, Conn. *Natural science.* Scranton, Pa, Dec. 30, 55. Ph.D, Yale, 01. *Asst, Zool. Dept, Peabody Mus, Yale, 79–* Asst, U. S. Fish Commission, 81–88; 'Webster Int. Dict,' 82–90; U. S. Nat. Mus, 91–92, 94–98. Soc. Nat; Soc. Zool. Marine mollusks and annelids.—Annelids of the Harriman Alaska and Bermuda expeditions.

Butler, Amos W(illiam), State House, Indianapolis, Ind. *Anthropology, Zoology.* Brookville, Ind, Oct. 1, 60. Hanover, 77; A.B, Indiana, 94, A.M, 00. *Sec'y, Ind. Board of State Charities, 97–* F.A.A. (sec'y, H, 86, F, 89, of Council, 91, gen. sec'y, 92, v. pres, 00); mem. Ornith. Union; Anthrop. Ass; Nat. Geog. Soc; Nat. Prison Ass. (sec'y, 05–); Ind. Acad. (sec'y, 85–93, v. pres, 94, pres, 95, ornithologist, Dept. Geol. and Nat. Resources of Ind, 96–97); Soc. Cient. Ant. Alz. Birds; mammals; reptiles; antiquities of Ohio valley and Indiana; degeneracy, pauperism and crime.—Dependency, defectiveness and delinquency; public charities.

Butler, Pres. Nicholas Murray, Columbia University, New York, N. Y. *Historical philosophy, Education.* Elizabeth, N. J, April 2, 62. A.B, Columbia, 82, fellow, 82–85, A.M, 83, Ph.D, 84; Berlin and Paris, 84–85. Asst. philos, *Columbia,* 85–86, tutor, 86–89, adj. prof, 89–90, prof. philos, ethics and psychol, lecturer on the history and institutes of educ. and dean, 90–95, *prof. philos. and educ, 95–, pres, 02–* Pres, Teachers Col, 87–91; N. J. State Board of Educ, 87–94; special commissioner for N. J, Paris Expos, 89; Paterson Sch. Commission, 92–93; ed, 'Educ. Rev.' LL.D, Syracuse, 98; Tulane, 00; Yale, Princeton, Hopkins and Pennsylvania, 02; Chicago, 03; Manchester, 05; St. Andrew's, 05; Litt.D, Oxford, 05. Nat. Educ. Ass. (pres, 95); Nat. Council Educ; Soc. Sci. Educ. (pres, 01–02); Philos. Ass; Psychol. Ass. Historical philosophy; principles, practise and organization of education.—The treatment of the will in European philosophy; university administration and problems.

Butterfield, Prof. Arthur D(exter), 41 S. Prospect St, Burlington, Vt. *Civil engineering, Geodesy.* Dunstable, Mass, Oct. 13, 70. B.S, Worcester, 93, M.S, 98; A.M, Columbia, 04. Asst. civil eng, Worcester, 94–98; instr. math, *Eng. Dept, Vermont,* 98–00, asst. prof, 00–04, *prof. mech.*

and math, 04– With U. S. Lighthouse Service, 93–94; asst, Mass. State Surveys, summers, 95–98, 00–03; chief of field party, U. S. Geol. Surv, 04, 05. M.A.A. Geodesy; history and development of triangulation in Massachusetts. —Base line measurements with steel tapes; history of the determination of the figure of the earth from arc measurements.

Butts, Charles, U. S. Geological Survey, Washington, D. C. *Geology.* Portville, N. Y, Sept. 18, 63. B.S, Alfred, 99, M.S, 00. Field asst, U. S. Geol. Surv, 00; asst. to N. Y. state paleontologist, 00–01; *asst. geologist, U. S. Geol. Surv, 01–* Wash. Geol. Soc. Areal and structural geology.—Geological researches in Pennsylvania and Alabama.

Byerly, Prof. W(illiam) E(lwood), 39 Hammond St, Cambridge, Mass. **Mathematics.* Philadelphia, Pa, Dec. 13, 49. A.B, Harvard, 71, Ph.D, 73. Asst. prof. *math,* Cornell, 73–76; *Harvard,* 76–81, *prof, 81–* Ed, 'Annals of Math,' 99– Math. Soc; fel. Am. Acad.

Byers, Dr. H(orace) G(reeley), 4719 15th Ave, N. E, Seattle, Wash. *Chemistry.* Pulaski, Pa, Dec. 26, 72. A.B, B.S, Westminster (Mo.), 95, A.M, 98; Ph.D, Hopkins, 99. Prof. *chem,* Tarkio, 95–96; instr, Maryland, 98–99; *prof, Washington (Seattle), 99–* Instr, Chem. Lab, Chicago, summers, 02–04. Action of manganese dioxid on potassium permanganate; wood tar of Douglas fir; oil of red elderberry.—Action of Röntgen rays in hastening chemical reactions; perchromic acid and the perchromates.

Byrd, Prof. Mary E(mma), Smith College Observatory, Northampton, Mass. *Astronomy.* Le Roy, Mich, Nov. 15, 49. A.B, Michigan, 78; Harvard Col. Observatory, 82–83. Principal, High Sch, Wabash, Ind, 79–82; first asst, *Observatory,* Carleton, 83–87; *director, Smith, 87–, prof. astron, 98–* Hon. Ph.D, Carleton, 04. Astron. and Astrophys. Soc; Pacific Astron. Soc; British Astron. Ass. Comet positions by filar micrometer.

Byrnes, Dr. Esther F(ussell), 193 Jefferson Ave, Brooklyn, N. Y. *Biology.* Philadelphia, Pa, Nov. 3, 67. A.B, Bryn Mawr, 91; Woods Hole, 91; A.M, Bryn Mawr, 94, fellow, 94–95, Ph.D, 98. Demonstrator biol, Vassar, 91–93; Bryn Mawr, 95–97; *senior instr. physiol. and teacher biol, Girls' High Sch, Brooklyn, 98–* Soc. Nat; Mar. Biol. Ass; fel. N. Y. Acad; N. Y. Ass. Biol. Teachers (v. pres.). Cytology; maturation and fertilization in limax; origin of limb muscles in Amphibia; regeneration of limbs in Amphibia; etc.—Cyclopidae.

C

Cabot, Dr. Richard Clarke, 190 Marlboro St, Boston, Mass. **Medicine.* Brookline, Mass, May 21, 68. A.B, Harvard, 89, M.D, 93, Dalton scholar, 94–95. Asst. *clin. med, Harvard,* 98–03, *instr, 04–* Visiting physician, Channing Home, 96–97; physician to out-patients, Mass. Gen. Hosp, 97–; consulting physician, Mass. Eye and Ear Infirmary, 00–; New England Hosp, 02–; lecturer philos, Harvard, 02–03. Am. Physicians; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Improv; Boston Soc. Med. Sci. Blood; methods of examining the chest; action of alcohol and strychnine in fevers; serum diagnosis in disease.—Abdominal tumors; habits of healthy human beings in American cities as regards food, sleep, exercise, etc; alcohol in arteriosclerosis.

Cady, Prof. Walter G(uyton), 100 High St, Middletown, Conn. *Physics.* Providence, R. I, Dec. 10, 74. Ph.B, Brown, 95, A.M, 96; Ph.D, Berlin, 00. Instr. math, Brown, 95–97; *physics, Wesleyan,* 02–03, *assoc. prof, 03–* Magnetic observer, U. S. Coast and Geod. Surv, 00–02. M.A.A; Physical Soc; Nat. Geog. Soc; Wash. Philos. Soc. Passage of electricity in gases.—Magnetic declinometer.

Cain, Prof. W(illia)m, Chapel Hill, N. C. *Mathematics, Engineering.* Hillsboro, N. C, May 14, 47. A.M, N. C. Mil. and Polytech. Inst, 65. Civil engineer, 65–74; prof. math. and eng, Carolina Mil. Inst, 74–80; civil engineer, 80–82; *prof.* math. and eng, S. C. Mil. Acad, 82–89; *math, North Carolina, 89–* F.A.A; Math. Soc; Civil Eng. Voussoir arches; solid and braced arches; steel-concrete arches; retaining walls; stresses in bridges; calculus.

Cajori, Prof. Florian, 1119 Wood Ave, Colorado Springs, Colo. **Mathematics.* Near Thusis, Graubünden, Switzerland, Feb. 28, 59. B.S, Wisconsin, 83; Hopkins, 84–85; M.S, Wisconsin, 86; Ph.D, Tulane, 94. Asst. prof. math, Tulane, 85–87, prof. applied math, 87–88; U. S. Bur. Educ, 88–89; *prof.* physics, *Colo. Col,* 89–98, *math, 99–* Mem. Conference of Ten (mathematics), Nat. Educ. Ass, 92. F.A.A; Math. Soc; Math. Verein. Infinite series.—Id; theory of equations; history of eighteenth century mathematics.

Caldwell, Dr. B(enjamin) Palmer, Tulane University, New Orleans, La. *Chemistry.* New Orleans, April 2, 75. A.B, Tulane, 93, B.E, 95, Ch.E, 96; fellow, Hopkins, 00–01, Ph.D, 01. Instr. *chem, Tulane,* 95–97, *asst. prof, 97–* Equilibrium of double salts in solution.

Caldwell, Dr. E(ugene) W(ilson), 36 W. 35th St, New York, N. Y. *Electrical engineering.* Savannah, Mo, Dec. 3, 70. B.S, Kansas, 92; M.D, Univ. and Bellevue Hosp. Med. Col, 05. Experimental work on telephoning to light-ships, U. S. Lighthouse Establishment, 94–95; asst, Eng. Dept, N. Y. Telephone Co, 95–97; *director, Edward N. Gibbs Memorial X-ray Lab, Univ. and Bellevue Hosp. Med. Col, 01–* Elec. Eng; N. Y. Elec. Soc; London Röntgen Soc. Wireless telephony; induction coils and interrupters; Röntgen rays.—Crookes tubes.

Caldwell, Prof. Francis C(ary), 401 W. Sixth Ave, Columbus, O. *Electrical engineering.* Ithaca, N. Y, Dec. 25, 68. A.B, Cornell, 90, M.E. (in E.E.), 91; Polytech, Zürich, 92–93. Expert, Thomson-Houston Elec. Co, 91–92; asst. prof.

elec. eng, Ohio State, 93–97, assoc. prof, 97–01, *prof, 01–* F.A.A; Elec. Eng; Eng. Educ.

Caldwell, Prof. G(eorge) C(hapman), 11 Central Ave, Ithaca, N. Y. **Chemistry.* Framingham, Mass, Aug. 14, 34. B.S, Harvard, 55; Ph.D, Göttingen, 57; Heidelberg, 57–58. Asst. chem, Columbia, 59–60; prof. chem, physics and bot, Antioch, 60–62; *chem*, Pa. Agr. Col, 64–68; *Cornell*, 68–03, *emer. prof, 03–* F.A.A. (v. pres, 81); Chem. Soc. (pres, 92).

Caldwell, Dr. John W(illiamson), 1718 Palmer Ave, New Orleans, La. *Chemistry.* Charleston, S. C, Jan. 31, 42. A.B, Col. of Charleston, 61, A.M, 68; M.D, Med. Col. of Va, 64. Prof. mat. med, New Orleans Sch. of Med, 69–70; Stewart prof. nat. sciences, S. W. Presbyterian Univ, Clarksville, Tenn, 74–84; *prof. chem, Tulane, 96–* Electrolysis; ionization.—Electrolysis of potassium ferrocyanid and rate of migration of its anion.

Caldwell, Dr. Otis W(illiam), Charleston, Ills. *Botany.* Lebanon, Ind, Dec. 18, 69. B.S, Franklin, 94; Ph.D, Chicago, 98. Asst. *bot*, Chicago, 97–99; *prof, Ills. State Nor. Sch, 99–* F.A.A; Soc. Nat; Micros. Soc; Central Ass. Sci. and Math. Teachers (pres.). Life history and ecology of Lemna minor.

Caldwell, Prof. William, McGill University, Montreal, Can. *Philosophy.* Edinburgh, Scotland, Nov. 10, 63. A.M, Edinburgh, 84, Doctor Mental Science, Bruce of Grangehill scholar and medalist, 86, Sir Wm. Hamilton fellow, 87–90, Shaw fellow, 88–93. Asst. logic, Edinburgh, 87–89; instr. *philos*, Cornell, 91; Chicago, 92–94; *prof*, Northwestern, 94–03; *McGill, 03–* Locum tenens prof. philos, Univ. Col, Cardiff, Wales; examiner in philos, St. Andrew's, 90–93. Philos. Ass; Psychol. Ass. Philosophy and ethics; social philosophy.

Calhoun, Prof. F(red) H(arvey) H(all), Clemson College, S. C. *Geology.* Elbridge, N. Y, June 27, 73. B.S, Chicago, 98, Ph.D, 02. Asst. physiog. and field geol, Chicago, 99–02; asst. prof. geol. and physics, Illinois Col, 02–04; *prof. geol. and miner, Clemson, 04–* Asst. geologist, U. S. Geol. Surv; instr. physiog, Correspondence-study Dept, Chicago. M.A.A. The drift in Montana.—Field work in Montana; relations of the different drift sheets.

Calkins, Frank C(athcart), U. S. Geological Survey, Washington, D. C. *Geology.* Lakewood, O, June 7, 78. B.S, California, 99, grad. student, 99–02. Asst. miner, California, 00–01; *asst. geologist, U. S. Geol. Surv, 01–* Field asst, U. S. Geol. Surv, 00. Wash. Geol. Soc. Petrography of eastern Oregon; geology of Washington State.—Geology of Coeur d'Alène district, Idaho.

Calkins, Prof. Gary N(athan), 1 W. 81st St, New York, N. Y. **Zoology, General biology.* Valparaiso, Ind, Jan. 18, 69. B.S, Mass. Inst. Tech, 90; Ph.D, Columbia, 98. Lecturer biol, Mass. Inst. Tech, 90–93; tutor *zool, Columbia*, 94–98, instr, 99–03, asst. prof, 03–04, *prof, 04–* Biologist, N. Y. State Cancer Lab, Univ. of Buffalo. F.A.A; Soc. Nat; Soc. Zool; Statist. Ass. (asst. sec'y, 90–96); Soc. Exp. Biol. and Med. (treas.); fel. N. Y. Acad. (sec'y, Biol. Sect, 97–99); Wash. Biol. Soc. General cytology; systematic zoology.—Life history of Protozoa; the smallpox organisms; biological aspects of the cancer problem.

Calkins, Prof. Mary Whiton, Newton, Mass. **Psychology, Philosophy.* Hartford, Conn, March 30, 63. A.B, Smith, 85, A.M, 87; Harvard, 90–91, 93–95. Instr. Greek, *Wellesley*, 88–90, psychol, 91–93, assoc. prof, 93–97, *prof. philos. and psychol, 97–* Psychol. Ass; Philos. Ass. Dreams; association; supplementary images in recognition; Hegelian categories.

Call, Dr. R(ichard) Ellsworth, 9 E. 22d St, New York, N. Y. *Zoology.* Brooklyn, May 13, 56. A.B, Indiana, 90; M.S, Iowa State, 90; A.M, Indiana, 91; M.D, Hosp. Col. Med, Louisville, Ky, 93; Ph.D, Ohio (Athens), 95. Aid, U. S. Geol. Surv, 84–85; principal, High Sch, Moline, Ills, 85–87; asst. prof. zool, Missouri, 87–88; teacher science, High Sch, West Des Moines, Ia, 88–92; prof. chem. and physics, Manual Training High Sch, Louisville, Ky, 92–95; supt. schools, Lawrenceburg, Ind, 95–98; prof. physiog, Erasmus Hall High Sch, Brooklyn, N. Y, 98–99; *curator, Brooklyn Inst. Arts and Sciences, 99–* Asst. geologist, Ark. Surv, 88–92; U. S. Geol. Surv, 84. Fel. Iowa Acad; fel. Ind. Acad; N. Y. Acad. Geographic distribution of North American Unionidae; taxonomy of fishes and North American reptiles.—Unionidae of North America; fishes of New York; Mollusca of North America.

Calvert, Dr. Philip P(owell), University of Pennsylvania, Philadelphia, Pa. **Zoology.* Philadelphia, Jan. 29, 71. Certificate in biol, Pennsylvania, 92, Ph.D, 95; Berlin, 95–96; Jena, 96. Asst. instr. *zool, Pennsylvania*, 92–97, *instr*, 97– Assoc. ed, 'Entom. News,' 93– F.A.A; Entom. Soc. (pres, 99–); Phila. Acad. (Council, 97–, Pub. Committee, 00–). Zoology of the Odonata.—Odonate fauna of Mexico and Central America; embryonic development of Odonata.

Calvert, Mrs. Philip P. (Amelia Catherine Smith), 4003 Powelton Ave, Philadelphia, Pa. *Zoology.* Philadelphia, Feb. 23, 76. B.S, Pennsylvania, 99; scholar, Bryn Mawr, 99–00, fellow, 00–01. Structure and parasitism of Aphyllon uniflorum; reactions of Allolobophora foetida.

Calvert, Prof. Sidney, 1600 E. Broadway, Columbia, Mo. *Chemistry.* Rochdale, England, Sept. 18, 68. Ont. Agr. Col, 84–87; B.S, McGill, 90; A.M, Harvard, 92; Freiburg, 01–02. Asst. *chem*, Harvard, 92–94; *asst. prof, Missouri, 94–* F.A.A; Chem. Soc; Soc. Chem. Indust; London Chem. Soc; Chem. Gesell. Behavior of certain derivatives of benzol containing halogens; bromin derivatives of metaphenylenediamin.—Dietary studies.

Calvin, Prof. Samuel, 522 N. Clinton St, Iowa City, Ia. **Geology, Paleontology.* Wigtonshire, Scotland, Feb. 2, 40. A.M, Cornell (Ia.), 74; Ph.D, Lenox, 88. *Prof. geol, Iowa, 74–;* state geologist, Ia, 92–04. Ed. and assoc. ed, 'Am. Geologist,' 88– LL.D, Cornell (Ia.), 04. F.A.A. (sec'y, E, 90, v. pres, 94); Geol. Soc. (v. pres, 03); Nat. Geog. Soc; Iowa Acad. Geology and paleontology of Iowa.

Cameron, Dr. Frank K(enneth), Cosmos Club, Washington, D. C. **Chemistry.* Baltimore, Md, Feb. 2, 69. A.B, Hopkins, 91, Ph.D, 94; Sage fellow, Cornell, 94–95. Instr. org. chem, Cornell, 94–95; assoc. prof, Catholic, 95–97; research asst. physical chem, Cornell, 97–98; expert, *U. S. Dept. Agr,* 98–99, *soil chemist, 99–* F.A.A; Chem. Soc; Wash. Acad. Chemical dynamics; application of the principles of physical chemistry to organic chemistry; solution phenomena applied to soil studies.—Solution phenomena in relation to soils and plants.

Campbell, Prof. D(onald) F(rancis), Armour Institute of Technology, Chicago, Ills. *Mathematics.* Nova Scotia, April 26, 67. A.B, Dalhousie, 90; A.B, Harvard, 94, A.M, 95, Ph.D, 98. Instr. *math,* Harvard, 97–00; asst. prof, *Armour Inst,* 00–01, *prof, 01–* Math. Soc. Homogeneous forms in connection with linear differential equations.

Campbell, Dr. D(ouglas) H(oughton), Stanford University, Cal. **Botany.* Detroit, Mich, Dec. 16, 59. Ph.M, Michigan, 82, Ph.D, 86; Bonn, Tübingen and Berlin, 86–88. Instr. biol, High Sch, Detroit, 82–86; *prof. bot,* Indiana, 88–91; *Stanford, 91–* Assoc. ed, 'Am. Naturalist.' F.A.A. (v. pres, 02); Am. Acad; Int. Ass. Bot; British Ass; for. mem. London Linnean Soc; Bot. Gesell. Comparative morphology; the evolution of plants.—Embryology of the simpler angiosperms.

Campbell, Prof. E(dward) D(e Mill), 1555 Washtenaw Ave, Ann Arbor, Mich. **Chemistry.* Detroit, Mich, Sept. 9, 63. B.S, Michigan, 86. Chemist, Ohio Iron Co, Zanesville, 86–87; Sharon Iron Co, 87–88; Dayton Coal and Iron Co, 88–90; asst. prof. metal, *Michigan,* 90–93, junior prof, 93–02, *prof. chem. eng. and anal. chem. and head, Dept. Chem. Eng, 02–, director, Chem. Lab, 05–* Chem. Soc; Min. Eng; Gt. Britain Iron and Steel Inst. Constitution of steel; constitution of hydraulic cements.

Campbell, Prof. G(abriel), Dartmouth College, Hanover, N. H. *Philosophy.* Dalrymple, Scotland, Aug. 19, 38. B.Pd, Mich. Nor. Col, 61, M.Pd, 93; A.B, Michigan, 65, A.M, 68; B.D, Chicago Theol. Sem, 68; Berlin, 70–72. Prof. philos, Minnesota, 68–81, v. pres, 72–81 (offered the presidency); *prof. philos,* Bowdoin, 81–83; *Dartmouth, 83–* Ed, 'The Citizen,' 74–76; v. pres, Philos. Sect, Columbian Expos, 93. D.D, Dartmouth, 86. Philos. Ass; Northern Acad; Int. Ass. of Arts (mem. Exec. Committee); Berlin Philos. Gesell. Development of intuition; hypnotic vision; historical philosophy.

Campbell, Dr. G(eorge) A(shley), 125 Milk St, Boston, Mass. *Electrical engineering.* Hastings, Minn, Nov. 27, 70. B.S, Mass. Inst. Tech, 91; A.B, Harvard, 92, A.M, 93; Göttingen, Vienna and Paris, 93–96; Ph.D, Harvard, 01. *Electrician, Eng. Dept, Am. Telephone and Telegraph Co, 97–* Assoc. mem. Elec. Eng; fel. Am. Acad. Electrical transmission.

Campbell, Harry Huse, Steelton, Pa. *Metallurgy.* West Roxbury, Mass, March 10, 59. B.S, Mass. Inst. Tech, 79. *Gen. manager, Pa. Steel Co, Steelton, Pa, 01–* Min. Eng; Civil Eng; Gt. Britain Iron and Steel Inst. Steel making, especially open hearth work.

Campbell, Prof. H(enry) D(onald), Lexington, Va. *Geology.* Lexington, July 29, 62. A.M, Washington and Lee, 82, Ph.D, 85; Berlin, 86–87; Heidelberg, 87–88. Instr. chem. and geol, *Washington and Lee,* 82–84, asst. prof, 84–86, *prof. geol. and biol, 88–* F.A.A; Geol. Soc. Geology of western Virginia; Mesozoic diabases of the Atlantic border.

Campbell, Dr. John P(endleton), Athens, Ga. *Physiology, Biology.* Cumberland, Md, Nov. 20, 63. A.B, Hopkins, 85, Ph.D, 88. *Prof. biol, Georgia, 88–* Soc. Nat; Physiol. Soc. Physiology of muscle and nerve.

Campbell, M(arius) R(obinson), U. S. Geological Survey, Washington, D. C. **Geology, Physiography.* Garden Grove, Ia, Sept. 30, 58. Ohio State, 85–87. Aid, *U. S. Geol. Surv,* 89–90, asst. geologist, 91–96, *geologist, 97–* F.A.A; Geol. Soc; Min. Eng; Wash. Geol. Soc. Structure and stratigraphy of Appalachian coal field; physiographic history of eastern United States; coal testing at Geological Survey plant, St. Louis, Mo.

Campbell, Dr. W(illia)m, Columbia University, New York, N. Y. *Metallurgy.* Newcastle-on-Tyne, England, June 24, 76. King's Col, London, 92; Oxford, 93–94; B.S, Durham, 98; Royal School of Mines, London, 99–01; fellow, Columbia, 02; M.S, Durham, 03; Ph.D, Columbia, 03, Barnard fellow, 03–05, A.M, 05; Sc.D, Durham, 05. Lecturer geol. and demonstrator metal, Durham, 98–99; non-res. lecturer, *Columbia,* 03, *instr. metal, 04–* Carnegie scholar, Gt. Britain Iron and Steel Inst, 02; Saville Shaw medal, Soc. Chem. Indust, 03. Min. Eng; Soc. Testing Materials; London Geol. Soc. Microstructure and physical properties of metals and alloys.—Influence of heat treatment on structure and properties of iron and steel and other alloys.

Campbell, Prof. W(illia)m Francis, 86 Greene Ave, Brooklyn, N. Y. *Surgery.* Brooklyn, Nov. 7, 65. N. Y. Univ, 87; Long Isl. Col. Hosp, 92. *Prof. anat, Long Isl. Col. Hosp, 01–* Surgeon, Swedish and Bushwick Hospitals; asst. surgeon, Long Isl. Col, Kings Co. and St. John's Hospitals. Ass. Anat; Am. Med. Ass; fel. Am. Acad. Med; Ass. Mil. Surg; N. Y. State Med. Soc; N. Y. Acad. Med; L. I. Med. Soc; Ass. Physicians of L. I; Greater N. Y. Med. Soc; Kings Co. Med. Soc; Brooklyn Med.

Soc; Brooklyn Surg. Soc; Brooklyn Path. Soc; Brooklyn Med. Club.

Campbell, Director W(illiam) W(allace), Lick Observatory, Mt. Hamilton, Cal. **Astronomy, Astrophysics.* Hancock Co, O, April 11, 62. B.S, Michigan, 86. Prof. math, Colorado, 86–88; instr. astron, Michigan, 88–91; astronomer, *Lick Observatory, 91–01, director, 01–* Assoc. ed, 'Astrophys. Jour'; in charge, Lick Observatory Eclipse Exped. to India, 98, Georgia, 00. Hon. M.S, Michigan, 99; Sc.D, Western Univ. of Pa, 00; LL.D, Wisconsin, 02; Sc.D, Michigan, 05. Nat. Acad; F.A.A; Astron. and Astrophys. Soc; Philos. Soc; Wash. Acad; for. assoc. Royal Astron. Soc; Astron. Gesell. Comets and orbits; spectra of new stars, comets, nebulae, bright-line stars, etc; radial motions of stars.—Motion of solar system; spectroscopic binary stars; solar eclipse problems.

Candy, Prof. A(lbert) L(uther), 1003 H St, Lincoln, Nebr. *Mathematics.* Jonesboro, Ind, March 12, 57. A.B, Kansas, 92, A.M, 93; Ph.D, Nebraska, 98. Prof. math. and civil eng, Campbell Univ, Holton, Kas, 86–91; instr. *math, Nebraska,* 93–98, adj. prof, 98–03, asst. prof, 03–04, *assoc. prof, 04–* A theorem in transversals and its consequences.

Cannon, G(eorge) L(yman), 1914 Pennsylvania Ave, Denver, Colo. *Geology.* New York, N. Y, March 10, 60. A.M, Denver, 00. *Teacher, High Sch, Denver, 87–* Manager, Colo. Chem. Works, 82–87; asst. geologist, U. S. Geol. Surv, 88–89; lecturer nat. science, summer schools, Boulder, Palmer Lake, Colorado Springs, ten years. F.A.A; Nat. Educ. Ass; Colo. Ornith. Union; Colo. Acad; Colo. Sci. Soc. (pres.); Colo. Sci. Teachers Ass. (pres.); Colo. State Teachers Ass; Denver Micros. Soc. (pres.). Stratigraphical geology, especially of the Quaternary period.—Quaternary deposits of the South Platte Valley; former extent of pre-Cretaceous deposits near Denver.

Cannon, Prof. W(alter) B(radford), Harvard Medical School, Boston, Mass. **Physiology.* Prairie du Chien, Wis, Oct. 19, 71. A.B, Harvard, 96, A.M, 97, M.D, 00. Instr. zool, *Harvard,* 99–00, *physiol, Med. Sch,* 00–02, *asst. prof, 02–* M.A.A; Physiol. Soc; Soc. Exp. Biol. and Med; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. Medical education; movements of stomach and intestines.—Mechanisms controlling mechanical factors in digestion.

Cannon, Dr. W(illiam) A(ustin), Tucson, Ariz. *Botany.* Washington, Mich, Sept. 23, 70. A.B, Stanford, 99, A.M, 00; fellow, Columbia, 00–02, Ph.D, 02. Asst. bot, Stanford, 99–00; asst. in laboratories, N. Y. Bot. Garden, 02–03; *res. investigator, Desert Lab, Carnegie Inst, Tucson, Ariz, 03–* Carnegie fellow, 03– F.A.A; assoc. Bot. Soc; Forestry Ass; Nat. Geog. Soc; Torrey Bot. Club. Cytology of hybrids.—Transpiration of plants.

Canter, Dr. Hall, Ashland, Va. *Chemistry.* Baltimore, Md, April 5, 73. A.B, Randolph-Macon, 92, A.M, 97; Ph.D, Hopkins, 00. Lecture asst. *chem,* Hopkins, 99; asst, Tulane, 00; *prof, Randolph-Macon, 00–* M.A.A. Benzene sulphonic acid derivatives; orthophenylsulphonebenzoic acid and derivatives.

Capron, Paul, Dummer Academy, South Byfield, Mass. *Mathematics.* Worcester, Mass, Feb. 22, 75. A.B, Harvard, 96, A.M, 97. *Teacher and tutor math, Dummer Acad, 96–* Math. Soc. The proper presentation of elementary and collegiate mathematics.

Carel, Prof. H(ubert) C(harles), University of Minnesota, Minneapolis, Minn. *Chemistry, Toxicology.* Olney, Ills, Aug. 18, 72. B.S, Minnesota, 93; Oxford and Paris. Instr. *chem, Minnesota,* 95–97, demonstrator, 97–00, asst. prof, 00–04, *prof, 04–; chemist, State Board of Health, 00–* Chem. Soc; Soc. Chem. Indust; Pub. Health Ass. Inorganic chemistry; chemistry of urine; picrotoxin; tyrotoxicon.—Toxicity and reactions of picrotoxin; normal chlorin in Minnesota waters; chemistry of saliva.

Carey, E(verett) P(ascoe), High School, San Jose, Cal. *Geology.* Port Elgin, N. B, Jan. 19, 68. A.B, Mt. Allison Univ, N. B, 92; A.B, Harvard, 93, B.S, 94. Instr, high schools, Mich. and Mass, 95–99; prof. science, Pacific, 99–01; *instr, High Sch, San Jose, Cal, 01–* Temporary field asst, U. S. Geol. Surv. M.A.A; Le Conte Geol. Soc. Origin of west coast serpentines; the crystalline rocks of the Oak Hill area, near San Jose; petrography of Pinnacle region, San Benito County, Cal.

Carhart, Prof. Daniel, 1410 Center St, Wilkinsburg, Pa. *Mathematics, Civil engineering.* Clinton, N. J, Jan. 28, 39. B.C.E, Polytech. Col. of Pa, 59, M.C.E, 69. Asst. prof. math. and eng, Polytech. Col. of Pa, 68–72, *prof,* 72–77; *Western Univ. of Pa,* 82–92, *math. and civil eng. and dean, Eng. Faculty, 92–* Hon. Sc.D, Western Univ. of Pa, 97. Eng. Educ; West. Pa. Eng. Soc.

Carhart, Prof. Henry S(mith), 521 Monroe St, Ann Arbor, Mich. **Physics.* Coeymans, N. Y, March 27, 44. A.B, Wesleyan, 69; Yale, 71–72; A.M, Wesleyan, 72; Harvard, 76; Berlin, 81–82. *Prof. physics,* Northwestern, 72–86; *Michigan, 86–* Int. Jury of Awards, Paris Expos. Elec, 81; pres, Board Judges, Dept. Elec, Columbian Expos, 93; Jury of Awards, Pan-Am. Expos, 01. LL.D, Wesleyan, 93. U. S. delegate, Int. Elec. Cong, Chicago, 93; St. Louis, 04 (v. pres.). F.A.A. (sec'y, B, 86, v. pres, 89); Elec. Eng; Physical Soc; Electrochem. Soc. (pres, 04–05); for. mem. London Elec. Eng. Standard cells; thermodynamics of the voltaic cell; concentration cells; separation of iron losses in transformers; rotation of the magnetic field; etc.—Concentration cells; absolute determination of the electromotive force of Clark and cadmium standard cells.

Carleton, Prof. M(ark) A(lfred), 1633 Howard Ave, N. W, Washington, D. C. *Agriculture.* Jerusalem, O, March 7, 66. B.S, Kas. State Agr. Col, 87, M.S, 93. Instr. nat. hist, Garfield

Univ, 89–90, prof, 90–91; asst. botanist, Kas. Agr. Exp. Sta, 92–93; *cerealist, U. S. Dept. Agr, 94–* Agr. explorer in Russia for U. S. Dept. Agr, 98–00; expert in charge, U. S. Grain Exhibit, and mem. Int. Jury, Class 39, Paris Expos, 00. Chevalier du Mérite agricole, 01. F.A.A; Soc. Plant Morph. and Physiol; Mycol. Soc; Nat. Geog. Soc; Wash. Bot. Soc; Wash. Biol. Soc; Kas. Acad. Uredineae of the Great Plains; cereal rusts of the United States; Russian cereals; durum wheats; climate in relation to wheat cultivation.—Ontogeny of cereal rusts; physiological relations of spring and winter wheats.

Carlson, Prof. A(nton) J(ulius), University of Chicago, Chicago, Ills. *Physiology.* Sweden, Jan. 29, 75. A.B, Augustana, 98, A.M, 99; Ph.D, Stanford, 03. Asst. physiol, Stanford, 02–04; research asst, Carnegie Inst, 03–04; assoc. *physiol, Chicago,* 04–05, *asst. prof, 05–* M.A.A; Physiol. Soc. Rate of conduction of the impulse in nerves; the nature of the heart-beat.—The physiology of inhibition.

Carmalt, Dr. Churchill, 130 E. 36th St, New York, N. Y. *Anatomy, Surgery.* Montrose, Pa, June 15, 66. Haverford, 81–82; A.B, Harvard, 87; M.D, Columbia, 91. *Asst. demonstrator anat, Columbia, 95–* Surgeon, Woman's Hosp. Ass. Anat; Am. Med. Ass; N. Y. Acad. Med. Anatomy; embryology; surgery.—Morphology of the salivary glands; lymphatics.

Carman, Prof. Albert P(ruden), University of Illinois, Urbana, Ills. **Physics.* Woodbury, N. J, July 15, 61. A.B, Princeton, 83, fellow, 83–84, A.M, Sc.D, 85; Berlin, 88–90. Instr. physics and math, Princeton, 84–88; *prof.* physics and elec. eng, Purdue, 90–93; theoret. physics, Stanford, 93–96; *physics, Illinois, 96–* Physical Soc.

Carpenter, Ford A(shman), U. S. Weather Bureau Office, San Diego, Cal. *Meteorology.* Chicago, Ills, March 25, 68. High Sch. and Acad. Asst. observer, Signal Corps, U. S. A, Portland, Ore, 88–90, San Francisco, 91; *observer, U. S. Weather Bur,* Carson City, Nev, 92–96, *San Diego, Cal, 96–* Asst, Carson Observatory, Carson City; lecturer meteorol, San Diego State Nor. Sch, 01– Int. Cong. Arts and Science, St. Louis, 04; Eighth Int. Geog. Cong, Washington, 04. M.A.A; Nat. Geog. Soc; San Diego Nat. Hist. Soc. (director, 01–02, sec'y). Wind velocities and their measurements; cloudiness and sunshine; utilization of fog; climatology of southern California.—Transient effect of littoral wind on vertical temperature gradient.

Carpenter, Dr. Franklin R(euben), 1420 Josephine St, Denver, Colo. *Geology, Metallurgy.* Parkersburg, Va, Nov. 5, 48. A.M, Ohio, 87, Ph.D, 88. Prof. mining and geol, Dakota Sch. of Mines, 86–89; *gen. manager of mines and smelting works, 89–* M.A.A; Geol. Soc; Min. Eng; Colo. Sci. Soc. Vein formation and metallurgy.—Metallurgy of copper, gold and silver.

Carpenter, Dr. F(rederic) W(alton), University of Illinois, Urbana, Ills. *Zoology.* Millbrook, N. Y, May 12, 76. B.S, N. Y. Univ, 99; A.M, Harvard, 02, Ph.D, 04. *Instr. zool, Illinois, 04–* Lecturer biol, Summer Sch, N. Y. Univ, 04, 05. Development of nerves; reactions of insects.—Various reactions of animals.

Carpenter, Prof. L(ouis) G(eorge), Fort Collins, Colo. *Irrigation engineering.* Orion, Mich, March 28, 61. B.S, Mich. Agr. Col, 79; M.S, Michigan, 84; Hopkins, 85–88. Instr. math, Mich. Agr. Col, 81–85, asst. prof, 85–88; *prof. eng. and physics, Colo. Agr. Col, 88–; meteorologist and irrigation engineer, Colo. Exp. Sta, 88–, director, 99–* Special agent, artesian well investigation, U. S. Dept. Agr, 90, irrigation expert, 02; co-editor, 'Standard Dict'; state engineer, Colo, 03–05; consulting engineer and expert for Colo. in Kas. interstate water litigation, 03– Chevalier du Mérite agricole, 95; gold medal, Paris Expos, 00. F.A.A; Soc. Irrig. Eng. (pres, 93–94); Soc. Prom. Agr. Sci; Mich. Eng. Soc. Measurement of water; gain and loss of water from streams; duty water in general; irrigation.—Duty water; seepage; water supply.

Carpenter, Prof. R(olla) C(linton), 125 Eddy St, Ithaca, N. Y. *Mechanical engineering.* Orion, Mich, June 26, 52. B.S, Mich. Agr. Col, 73, M.S, 77; C.E, Michigan, 75; M.M.E, Cornell, 88. *Prof.* math. and civil eng, Mich. Agr. Col, 77–90; *exp. eng, Cornell, 90–* Mem. Jury of Awards, Columbian Expos, 93; Pan-Am. Expos, 01; consulting engineer. Mech. Eng; Min. Eng; Heat. and Vent. Eng; Mich. Eng. Soc; N. Y. Ry. Club. The steam-engine; heating; strength of materials; hydraulics.

Carr, Dr. W(illiam) P(hillips), 1418 L St, N. W, Washington, D. C. *Surgery, Physiology.* Boydton, Va, May 10, 58. Randolph-Macon, 74–76; M.D, Columbian, 88. *Prof. physiol, George Washington, 94–* Surgeon, Emergency Hosp, 95–; prosector anat, lecturer anat. and surg. and coroner, 96–99; assoc. surgeon, Univ. Hosp, and consulting surgeon, Wash. Asylum Hosp, 98– Ass. Anat; Am. Med. Ass; South. Surg. and Gynec. Soc; Va. Med. Soc; D. C. Med. Ass; D. C. Med. Soc; D. C. Med. and Surg. Soc; D. C. Obstet. and Gynec. Soc. Pathology and surgery; gynecology and obstetrics.—Physiology of nerves; pathology of tumors.

Carroll, Dr. James, 1224 U St, N. W, Washington, D. C. **Bacteriology, Pathology.* Woolwich, England, June 5, 54. N. Y. Univ, 86–87; M.D, Maryland, 91; Hopkins, 91–93. Asst. clin. and sanit. micros, *Army Med. Sch,* 93–02, *prof. bacter. and clin. micros, 02–;* senior demonstrator bacter. and path, *Med. Dept, George Washington,* 94–02, instr. clin. micros, 99–04, assoc. prof. bacter. and path, 02–04, *prof. bacter. and path. and lecturer clin. micros, 04–* Pathologist, Columbia Hosp. for Women, 98–; mem. Board of U. S. Army Med. Officers on Tropical Diseases (especially yellow fever in Cuba), 00;

asst. surgeon, U. S. A; curator, Army Med. Mus, 03– F.A.A; Soc. Nat; Soc. Bact. (v. pres, 02); Ass. Path. and Bact; hon. mem. Am. Soc. Trop. Med; Nat. Geog. Soc; Wash. Acad; Wash. Biol. Soc; Wash. Clinico-path. Soc. Etiology and mode of transmission of yellow fever; typhoid fever.

Carson, Prof. Lewis C(linton), 502 N. Washington St, Bloomington, Ind. *Philosophy.* Detroit, Mich, July 16, 70. A.B, Michigan, 92; A.B, Harvard, 93; A.M, Michigan, 99; A.M, Harvard, 00, Ph.D, 01. Asst. *philos,* Harvard, 99–02, Radcliffe, 00–01, instr, 01–02; *asst. prof, Indiana, 02–*

Carter, Dr. J(ames) M(adison) G(ore), 219 Clayton St, Waukegan, Ills. *Medicine.* Johnson Co, Ills, April 15, 43. A.B, St. John's, 77; M.D, Chicago Med. Col, 80. Prof. path, *Col. Physicians and Surg, Illinois,* 91–93, clin. and preventive med, 93–99, *emer. prof. clin. med, 99–* Hon. A.M, McKendree, 81, Ph.D, 87; Sc.D, Lake Forest, 87. F.A.A; Am. Med. Ass; Am. Acad. Med; Acad. Polit. and Social Sci; Am. Hist. Ass; Ills. Med. Soc. (pres, 98); Chicago Acad; Chicago Med. Soc; Chicago Soc. Internal Med. Clinical medicine; medical botany; hygiene; climatology.—Clinical electricity; electrotherapeutics.

Carter, Prof. Oscar C(harles) S(umner), 1930 Chestnut St, Philadelphia, Pa. *Geology, Mineralogy, Chemistry.* Philadelphia. Polytech. Col, Phila, 76; Pennsylvania, 79. Chief chemist, Midvale Steel Works, Phila, 79–80; asst. prof. chem, *Central High Sch, Phila,* 80–87, *prof. geol. and miner. and assoc. prof. chem, 87–* Prof. chem, Spring Garden Inst, Phila, 87; lecturer chem, United Chautauqua Circles of Phila, 88. Medal, Pa. State Agr. Soc. Phila. Acad; Vienna Verein der Bohrtechniker. Artesian wells in southeastern Pennsylvania; geology of Montgomery County and southeastern Pennsylvania; petrified forests of Arizona; cliff dwellings of the southwest.—Geology of southeastern Pennsylvania.

Carter, Dr. W(illiam) S(pencer), University of Texas, Galveston, Tex. *Physiology.* Warren Co, N. J, April 11, 69. M.D, Pennsylvania, 90. Res. physician, Phila. Hosp, 90; Presbyterian Hosp, 91; asst. physiol, Pennsylvania, 91–92, asst. demonstrator path, 92–95, asst. prof. comp. physiol. and demonstrator physiol, 95–97; *prof. physiol, Texas, 97–* Quiz master, Med. Inst, Phila, 91–96. Physiol. Soc; Tex. Acad; Tex. Med. Ass; Phila. Path. Soc; Phila. Co. Med. Soc; Phila. Col. Physicians. Leucocytosis and blood-serum; cause of uremia; action of drugs and poisons (kreatin, phenacetin, phenocoll, antipyrin); poisonous mushrooms.—Parathyroids; secretory action of renal epithelium; absorption; autodigestion.

Cartmel, W(illiam) B(ell), 801 Middle Ave, Elyria, O. *Physics.* Liverpool, England, Jan. 4, 72. B.S, Case, 00; fellow, Nebraska, 00–02, A.M, 02. *With Bur. of Standards, 02–* Instr. physics, Cincinnati, 03. Physical Soc. Anomalous dispersion and selective absorption.—Selective reflection from fuchsin.

Carus, Dr. Paul, La Salle, Ills. *Philosophy.* Ilsenberg, The Harz, Germany, July 18, 52. Greifswald, 73–74; Strasburg, 74–75; Ph.D, Tübingen, 76. Teacher class. languages and hist, Albani's Real-gymnasium, Dresden, 75–76; fac. docendi, Halle, 77; Kaüffer's Realschule, Dresden, 78; Oberlehrer, Royal Corps of Cadets, Dresden, 79–82; *ed, 'Monist' and 'Open Court,' and manager, The Open Court Pub. Co.* Prof, Sachs's Collegiate Col; ed, 'Zickel's Familienblätter.' F.A.A; Philos. Ass; Int. Folklore Soc. (pres, 02); Oriental Soc; Leopoldina; Egyptian Exploration Fund, Religious Parliament Extension (sec'y); Royal Asiatic Soc. Philosophy of religion.—Religious literature of China translated from original texts.

Carver, Dr. B(enjamin) F(ranklin), Whiting, Ind. *Chemistry.* Hanover, Pa, Sept. 10, 78. B.S, Pennsylvania Col, 00, M.S, 03; Ph.D, Hopkins, 03. *Chemist, Standard Oil Co, Whiting, Ind, 03–* New semipermeable membranes prepared by the electrolytic method.

Carveth, Dr. Hector Russell, 110 Cook St, Ithaca, N. Y. *Chemistry.* Port Hope, Ont, Jan. 23, 73. A.B, Victoria and Toronto, 96; fellow, Cornell, 96–98, Ph.D, 98, hon. fellow, 98–99. *Instr.* gen. chem, *Cornell,* 99–00, *physical chem, 00–* Reviewer, 'Jour. Physical Chem.' Chem. Soc; Electrochem. Soc. Vapor composition and phase separations; electrochemical reactions.—The theory of laboratory methods.

Case, Prof. E(rmine) C(owles), State Normal School, Milwaukee, Wis. *Paleontology, Osteology.* Kansas City, Mo, Sept. 11, 71. A.B, A.M, Kansas, 93; M.S, Cornell, 95; Ph.D, Chicago, 96. Asst. chem, Kansas, 93–95; instr. vert. paleont, Chicago, 96; *prof. geol. and physical geog, State Nor. Sch, Milwaukee, 97–* Assoc. ed, 'Sch. Science.' M.A.A; Geol. Soc; Paleont. Soc. Osteology and morphology of extinct American reptiles.—Morphology of Permian vertebrates of America.

Case, Prof. Mary S(ophia), Wellesley College, Wellesley, Mass. *Philosophy, Psychology.* Worthington, O, March 2, 54. A.B, Michigan, 84. Instr. Latin, *Wellesley,* 84–86, philos, 86–90, *assoc. prof. psychol. and hist. of philos, 90–* Philos. Ass.

Case, Willard Erastus, Auburn, N. Y. *Electricity.* Auburn, Feb. 19, 57. Law Sch, Hamilton Col. Private research. Elec. Eng; N. Y. Elec. Soc. Production of electrical energy.

Casey, Major Tho(ma)s L(incoln), U. S. A, 1419 K St, N. W, Washington, D. C. *Entomology, Paleontology.* West Point, N. Y, Feb. 19, 57. Sheffield Sci. Sch, Yale, 74–75; grad, U. S. Mil. Acad, 79. All grades to *major, U. S. Corps Engineers, 79–* Mem. Transit of Venus Exped. to Cape of Good Hope, 82–83; Miss. River Commission, 02– F.A.A; Soc. Nat; Am. Geog. Soc; Cal. Acad; fel. N. Y. Acad. (ed, 'Annals,' 90–95); Wash. Entom. Soc; Phila. Acad; Soc.

entom. de France. Professional engineering work; double star orbits; Coleoptera; southern Tertiary paleontology.

Caspari, Dr. Charles E(dward), St. Louis College of Pharmacy, St. Louis, Mo. *Chemistry.* Baltimore, Md, April 9, 75. A.B, Hopkins, 96, fellow, 99–00, Ph.D, 00. Asst. to Dr. Ira Remsen, Hopkins, 99–00; org. chem, Columbia, 00–01; research chemist, Mallinctkrodt Chem. Works, 01–03; *prof. chem, St. Louis Col. Pharmacy, 03–* Field asst, U. S. Geol. Surv, summer, 98. Chem. Soc; Pharmaceut. Ass. The fat contained in the seeds of the spice bush (Lindera benzoin); the determination of codein in opium.

Castle, Dr. W(illiam) E(rnest), 10 Ash Street Place, Cambridge, Mass. **Zoology.* Alexandria, O, Oct. 25, 67. A.B, Denison, 89; A.M, Harvard, 94, Ph.D, 95. Prof. Latin, Ottawa (Kas.), 89–92; instr. *zool,* Wisconsin, 95–96; Knox, 96–97; *Harvard,* 97–02, *asst. prof, 03–* F.A.A; Soc. Nat; Soc. Zool. (v. pres, 04); fel. Am. Acad. Embryology of tunicates; metamerism of leeches; heredity.—Variation and heredity among close-bred and cross-bred animals and among hybrids; control of sex proportion; causes of animal dimorphism.

Cathcart, Prof. W(illia)m L(edyard), Gwynedd, Pa. *Mechanical and marine engineering.* Mystic, Conn, Aug. 12, 55. Pennsylvania, 71–73; grad, U. S. Naval Acad, 75. Cadet engineer, asst. engineer, past asst. engineer, U. S. N, 75–91, chief engineer, Vol. Service, Spanish-Am. War, 98; prof. marine eng, Webb's Acad, N. Y, 97–99; adj. prof. mech, eng, Columbia, 99–03. Mech. Eng; Naval Eng; Naval Archit. and Marine Eng; Acad. Polit. and Social Sci; Franklin Inst. Marine and mechanical engineering.

Catlin, Cha(rle)s A(lbert), 133 Hope St, Providence, R. I. *Chemistry.* Burlington, Vt, May 10, 49. B.S, Vermont, 72, Ph.B, 73; Mass. Inst. Tech, 94–95. *Chemist, Rumford Chem. Works, Providence,* 73–75, 78– Assayer, Huntington Copper Mine, Can; consulting chemist. F.A.A; Chem. Soc; Soc. Chem. Indust; Franklin Inst; Providence Franklin Soc. Phosphoric acid and its compounds.—Technical chemistry.

Cattell, Dr. Henry W(are), 3709 Spruce St, Philadelphia, Pa. *Pathology.* Harrisburg, Pa, Oct. 7, 62. A.B, Lafayette, 83, A.M, 86; M.D, Pennsylvania, 87. Demonstrator morbid anat, Pennsylvania, 92–97; senior coroner's physician, Phila, 96–99; director, Ayer Clin. Lab, Pa. Hosp, 99–01; pathologist, Phila. Hosp, 03. Ed, 'Int. Clinics,' 99–02; 'Med. Notes and Queries'; 'Lippincott's Med. Dict.' F.A.A; Am. Med. Ass; Phila. Path. Soc; Phila. Col. Physicians. Clinical laboratory methods and instruments of precision.—Post-mortem technique; clinical laboratory methods.

Cattell, Prof. J(ames) McKeen, Garrison-on-Hudson, N. Y. **Psychology.* Easton, Pa, May 25, 60. A.B, Lafayette, 80, A.M, 83; Göttingen, Leipzig, Paris, Geneva, 80–82; fellow, Hopkins, 82–83; Leipzig, 83–86, Ph.D, 86. Asst. psychol, Leipzig, 85–86; lecturer, Pennsylvania and Bryn Mawr, 87; Cambridge, England, 88; *prof,* Pennsylvania, 88–91; exp. psychol, *Columbia,* 91–96, *psychol, 96–* Co-editor, 'Psychol. Rev,' 93–04; ed, 'Science,' 94–; 'Popular Science Monthly,' 00– Nat. Acad; F.A.A. (v. pres, 98); Soc. Nat. (pres, 02); Psychol. Ass. (pres, 95); Philos. Ass; Physiol. Soc; fel. Ethnol. Soc; Philos. Soc; fel. N. Y. Acad. (pres, 02, 03); Wash. Acad; London Neur. Soc; London Aristot. Soc. The measurement of psychophysical and mental processes.—Fatigue; individual differences.

Caudell, A(ndrew) N(elson), Conduit Road, opposite reservoir, Washington, D. C. *Entomology.* Indianapolis, Ind, Aug. 18, 72. B.S, Okla. Agr. Col, 97; Mass. Agr. Col, 97–98. *Asst. entom,* Okla. Agr. Col, 95; *Div. of Entom, U. S. Dept. Agr, 98–* Weather observer, Stillwater, Okla, 96–97. Ass. Econ. Entom; Wash. Entom. Soc. Natural history and classification of Orthoptera.—Orthopterous insects.

Chaillé, Prof. S(tanford) E(merson), P. O. Drawer 261, New Orleans, La. *Physiology, Hygiene, Anatomy.* Natchez, Miss, July 9, 30. A.B, Harvard, 51, A.M, 53; M.D, Tulane, 53. Demonstrator anat, *Med. Dept, Tulane,* 58–67, *prof. physiol. and path. anat, 67–, dean, 85–* Surgeon and med. inspector, Confederate Army of Tenn, 61–65; pres, Havana Yellow Fever Commission, Nat. Board of Health, 79, mem, 85–93. LL.D, Tulane, 01. F.A.A; Am. Med. Ass; Pub. Health Ass; La. Med. Soc; Orleans Parish Med. Soc; La. Pharmaceut. Ass; Phila. Col. Physicians; Md. Med. and Chirurg. Faculty; Havana Acad. Med. Sci. Hygiene; state medicine.—Improvement of medical education.

Chamberlain, Prof. Alexander F(rancis), 12 Shirley St, Worcester, Mass. **Anthropology.* Kenninghall, England, Jan. 12, 65. A.B, Toronto, 85, fellow, 87–90, A.M, 89; fellow, Clark, 90–92, Ph.D, 92. Lecturer *anthrop, Clark,* 92–00, acting asst. prof, 01–04, *asst. prof, 04–* Ed, 'Jour. of Am. Folk-lore,' 01–; mem. ed. board, 'Am. Anthropologist,' 01– Folk-lore Soc; Antiq. Soc; Nat. Geog. Soc; British Ass. (anthrop. res. in British Columbia, 91, and sec'y, Anthrop. Sect, 97); cor. mem. Portugal Inst. de Coimbra. Anthropology; American Indians; folk-lore; childhood; primitive languages.—Contact of white and red races in the new world; a dictionary of the Kootenay Indian language; physical characters of the child among the races of man; Algonkian onomatology; psychology of primitive races; anthropology of woman.

Chamberlain, Dr. Cha(rle)s J(oseph), University of Chicago, Chicago, Ills. **Botany.* Sullivan, O, Feb. 23, 63. A.B, Oberlin, 88, A.M, 93; Ph.D, Chicago, 97. Teacher, pub. sch, Pittsfield, O, 88–89; principal, High Sch, Crookston, Minn, 89–93; *instr. bot, Chicago, 97–* Am. ed. cytol, 'Bot. Centralblatt'; ed. current bot. lit, 'Jour. of Applied Micros,' 98–03. F.A.A. (sec'y, G,

03); Bot. Soc; Bot. Cent. States; Int. Ass. Bot; Bot. Gesell. Plant morphology and cytology.—The origin of apogamy; morphology of cycads.

Chamberlain, Dr. Joseph S(cudder), Bureau of Chemistry, U. S. Department of Agriculture, Washington, D. C. *Chemistry.* Hudson, O, March 7, 70. B.S, Iowa State, 90, M.S, 92; fellow, Hopkins, 98–99, Ph.D, 99. Lab. asst. chem, Iowa State, 90–92, instr, 94–97; Oberlin, 99–01; research asst. to Dr. Ira Remsen, Hopkins, 01; *physiol. chemist, U. S. Dept. Agr, 01–* Chem. Soc; Wash. Bot. Soc; Chem. Gesell. Parasulphamin benzoic acid.—Proteids of wheat and flour.

Chamberlain, Montague, Felton Hall, Cambridge, Mass. *Ornithology, Anthropology.* St. John, N. B, April 5, 44. Grammar sch, St. John. Recorder, Harvard, 89–93; sec'y, Lawrence Sci. Sch, Harvard, 93–00. Cor. fel. Ornith. Union; New Brunswick Nat. Hist. Soc. Ornithology; Indian linguistics, legends and history; northeastern tribes.

Chamberlin, Prof. R(alph) V(ary), University of Utah, Salt Lake City, Utah. *Zoology.* Salt Lake City, Jan. 3, 79. B.S, Utah, 98; Goldwin Smith fellow, Cornell, 02–04, Ph.D, 04. Instr. science, Latterday Saints Univ, 98–99, prof. biol, 99–02; asst. prof. *zool, Utah,* 04–05, *prof, 05–* Morphology and classification of chilopods, diplopods and Arachnida.—Lycosidæ of North America; comparative morphology of palpal organs in male spiders.

Chamberlin, Dr. T(homas) C(rowder), Walker Museum, Chicago, Ills. **Geology.* Mattoon, Ills, Sept. 25, 43. A.B, Beloit, 66; Michigan, 68–69; A.M, Beloit, 69. Principal, High Sch, Delavan, Wis, 66–68; prof. nat. science, State Nor. Sch, Whitewater, Wis, 69–73; geol, Beloit, 73–82; asst. state geologist, Wis, 73–76, chief geologist, 76–82; geologist in charge, Glacial Div, U. S. Geol. Surv, 82–04; lecturer geol, Beloit, 82–87; prof, Columbian, 85–87; pres, Wisconsin, 87–92; *head, Dept. Geol, Chicago, 92–* Rep. for Wis, Paris Expos, 78; geologist, Peary Exped, 94; ed, 'Jour. of Geol.' Medal, Paris Expos, 78, 93; hon. Ph.D, Michigan and Wisconsin, 82; LL.D, Michigan, Beloit, Columbian, 87; Wisconsin, 04; Sc.D, Illinois, 05. Nat. Acad; F.A.A. (v. pres, 86); Geol. Soc. (pres, 95); assoc. fel. Am. Acad; Philos. Soc; hon. mem. Wis. Acad. (pres, 85–87); Wash. Acad; Wash. Geol. Soc; cor. mem. N. Y. Acad; Chicago Acad. (pres, 97–); cor. mem. British Ass; cor. mem. London and Edinburgh Geol. Societies. Geology of Wisconsin; lead and zinc deposits; glaciers and glacial formations; the history of the atmosphere; the Laplacian hypothesis.—Glacial and dynamic geology; the planestesimal hypothesis; early history of the earth.

Chamot, Prof. E(mile) M(onnin), 408 Stewart Ave, Ithaca, N. Y. **Microchemistry, Sanitary chemistry.* Buffalo, N. Y, March 4, 67. B.S, Cornell, 91, Ph.D, 97; Nancy, Braunschweig, Paris and Delft. Asst. quant. anal, *Cornell,* 90–91, instr, 91–97, lecturer chem, 98, instr. toxicol, 99, *sanit. and toxicol. chem,* 00, *asst. prof, 01–* Consulting ed, 'City Government,' 00– Chem. Soc. (reviewer, 'Jour.'); Pub. Health Ass. Microchemical analysis; pigments of chromogenic bacteria.—Pigment of A. mordoré (Thiry); significance of nitrites in potable water; purification of water supplies by mechanical filtration.

Chance, Dr. H(enry) M(artyn), 819 Drexel Building, Philadelphia, Pa. *Geology, Mining engineering.* Philadelphia, Jan. 18, 56. C.E, Pennsylvania, 74; M.D, Jefferson Med. Col, 81. Asst. geologist, Pa. Geol. Surv, 74–84; mining engineer, Lehigh Mt. Mfg. Co, 85; chief engineer, New Croton Aqueduct, 86–88; *consulting engineer, 89–* Consulting mining engineer, D. L. and W. R. R. Co, 89–01. Min. Eng; Philos. Soc; Phila. Eng. Club. Geology; mining.

Chandler, Prof. C(harles) F(rederick), 51 E. 54th St, New York, N. Y. **Chemistry.* Lancaster, Mass, Dec. 6, 36. Lawrence Sci. Sch, Harvard; Berlin; Ph.D, Göttingen, 56. Asst. chem, Union, 57, prof, 57–64; anal. and applied chem, Sch. Mines, Columbia, 64–77, adj. prof. chem. and med. juris, Col. Physicians and Surg, 72–76, *prof,* 76–77, *chem, Columbia,* 77– Prof. org. chem. and pres, N. Y. Col. Pharmacy; chemist and later pres, Metropolitan Board of Health, N. Y. City. Hon. M.D, N. Y. Univ, 73; LL.D, Union, 73; Sc.D, Oxford, 00. Nat. Acad; F.A.A; Chem. Soc. (pres, 81–89); Soc. Chem. Indust; Elec. Eng; Min. Eng; Philos. Soc; N. Y. Chemists Club (pres, 99–00); N. Y. Acad; London Chem. Soc; Chem. Gesell; Soc. chim. de Paris. Industrial chemistry.

Chandler, Prof. Cha(rle)s H(enry), Ripon, Wis. *Mathematics.* New Ipswich, N. H, Oct. 25, 40. A.B, Dartmouth, 68, A.M, 71. Instr. science, Kimball Union Acad, Meriden, N. H, 68–69; *prof.* chem, physics and math, successively, Antioch, 71–81; *physics and math, Ripon, 81–* F.A.A; Math. Soc; Wis. Acad. (v. pres, 99–). Applied mathematics.

Chandler, Prof. E(lwyn) F(rancis), University, N. Dak. *Mathematics, Civil engineering.* Yellow Springs, O, Aug. 29, 72. A.B, Ripon, 94, A.M, 97; Wisconsin, 97–99, fellow, 98–99. Teacher, preparatory and high schools, 93–97; instr. *math, North Dakota,* 99–02, *prof, 02–* City engineer, Ripon, Wis, 95; asst. engineer, U. S. Geol. Surv, 03–; state engineer, N. Dak, 04– M.A.A; Wis. Acad. Theory of probabilities and least squares and their logarithmic mean as applied to estimates or other greatly discordant data.—Hydrographic methods; irrigation.

Chandler, Dr. S(eth) C(arlo), Wellesley Hills, Mass. **Astronomy.* Boston, Mass, Sept. 17, 46. English High Sch, Boston. Private asst, Dr. B. A. Gould, 63–69; aid, U. S. Coast Surv, 64–70; life ins. actuary, 70–85; Harvard Col. Observatory, 80–85; private investigator, 86–04; *ed, 'Astron. Jour,' 96–* Watson medal,

Nat. Acad; medal, Royal Astron. Soc; LL.D, De Pauw. Nat. Acad; F.A.A. (v. pres, 86); Astron. and Astrophys. Soc; Am. Acad; for. assoc. Royal Astron. Soc. Variable stars; comets; various branches of stellar astronomy.

Chandler, Prof. W(illiam) H(enry), South Bethlehem, Pa. *Chemistry.* New Bedford, Mass, Dec. 13, 41. A.B, A.M, Union, 62; Ph.D, Hamilton, 73; A.M, Columbia, 73. Instr. *chem,* Columbia, 68–71; *prof, Lehigh, 71–* Chemist, New Bedford Copper Works, 62–65; Swan Isl, W. I, Phosphates, 69–70; N. C. Turpentine Works, 66–67; U. S. Commissioner, Paris Expos, 89. Chem. Soc; Soc. Chem. Indust; London Chem. Soc; Soc. chim. de Paris. Industrial chemistry.

Chaney, Prof. L(ucian) W(est), Northfield, Minn. *Biology.* Heuvelton, N. Y, June 26, 57. A.B, Carleton, 78, B.S, 79, M.S, 82. Instr, high schools and supt. schools, 78–82; instr. *biol, Carleton,* 82–83, *prof, 83–* M.A.A; fel. Minn. Bot. Soc; Minn. Geog. Soc. Embryology of fishes; physiology of nervous system; glacial geology.

Chant, Dr. C(larence) A(ugustus), 52 Avenue Road, Toronto, Can. *Physics.* Near Toronto, May 31, 65. A.B, Toronto, 90, A.M, 00; Ph.D, Harvard, 01. Fellow and tutor *physics, Toronto,* 91–92, *lecturer, 92–* Physical Soc; Can. Royal Astron. Soc. (pres, 04, 05). The 'skin' effect in electrical oscillators; reception by wires of electric waves; physical basis of colors; reflecting power of glasses and mirrors. —Measurement of reflecting powers, etc.

Chanute, Dr. O(ctave), 413 E. Huron St, Chicago, Ills. *Engineering.* Paris, France, Feb. 18, 32. Private schools. Railroad engineer, 49–85; *consulting engineer, 95–* Hon. D. Eng, Illinois, 05. F.A.A. (v. pres, 86); Civil Eng. (past pres.); West. Soc. Eng. (past pres.); Can. Soc. Civil Eng; hon. mem. British Inst. Civil Eng. Engineering; wood preserving; physics.—Wood preserving by chemicals; equilibrium in flying-machine experiments.

Chapin, Prof. Henry E(dgerton), 49 Lefferts Ave, Richmond Hill, New York, N. Y. *Biology.* Wilbraham, Mass, May 9, 59. B.S, Mass. Agr. Col. and Boston, 81; Hopkins, 86–87; M.S, Mich. Agr. Col, 93. Teacher and ed, 81–86; teacher nat. science, Pa. State Nor. Sch, Bloomsburg, 88–90; biol, High Sch, Springfield, Mass, 90–91; *prof.* biol. and geol, Ohio (Athens), 91–00; *biol, Eastern Dist. High Sch, New York, 00–* In charge, Dept. Biol, Summer Sch, N. Y. Univ, 00. Soc. Nat; Ohio Acad; Brooklyn Inst. (pres, Dept. Bot, and mem. Council, 04–); hon. fel. London Soc. Biol. Chem. Blood of vertebrates; habits and structure of Melampus bidentatus.

Chapman, Frank M(ichler), Englewood, N. J. **Ornithology, Mammalogy.* Englewood, June 12, 64. Academy. Asst. curator, *Dept. Ornith. and Mammal, Am. Mus. Nat. Hist,* 88–01, *assoc. curator, 01–* Assoc. ed, 'The Auk,' 94–; ed. and founder, 'Bird-Lore,' 98–

Soc. Nat; fel. Ornith. Union; fel. N. Y. Acad; N. Y. Linnean Soc. (pres, 97); Wash. Acad; Wash. Biol. Soc; for. mem. British Ornith. Union. Birds; geographic distribution; systematic relationships; life histories.—Systematic work; popularization of natural history studies.

Chapman, Dr. Henry C(adwalader), 2047 Walnut St, Philadelphia, Pa. *Physiology, Anatomy, Medical jurisprudence.* Philadelphia, Aug. 17, 45. A.B, Pennsylvania, 63, M.D, 67. Coroner's physician, Phila, 75–80; *prof.* physiol, Pa. Col. of Dental Surg, 77–85; *institutes of med. and med. juris, Jefferson Med. Col, 80–* Mem. Board of Directors, Phila. Library Co. Physiol. Soc; Philos. Soc; Phila. Acad. (chairman, Board of Curators, 91); Phila. Zool. Soc. (cor. sec'y, 85–); Phila. Col. Physicians. Physiology; comparative anatomy.—Medical jurisprudence; insanity; toxicology.

Charlton, Prof. O(rlando) C(larke), Kalamazoo, Mich. *Botany.* Pleasant, Ind, April 2, 54. B.S, Hanover, 72, A.M, 85; Sheffield Sci. Sch, Yale, 75–76; Chicago, summers, 95–97, 01–04. Teacher, pub. schools, Ind, 76–85; *prof.* nat. science, Ottawa (Kas.), 85–91; Tex. Nor. Col, 91–93; *biol. and geol,* Baylor, 93–02; *Kalamazoo, 02–* M.A.A; Am. Acad; Mich. Acad; fel. Tex. Acad. (v. pres, 02). Pteridophytes.

Chase, Dr. F(rederick) L(incoln), Yale Observatory, New Haven, Conn. **Astronomy.* Boulder, Colo, June 28, 65. A.B, Colorado, 86; Ph.D, Yale, 91. *Asst. astronomer, Yale Observatory, 90–, instr. astron, Sheffield Sci. Sch, Yale, 94–* F.A.A; Astron. and Astrophys. Soc. Stellar parallax and proper motion.—Parallaxes of stars having large proper motion.

Chatard, Dr. Thomas M(arean), 1716 Rhode Island Ave, Washington, D. C. **Chemistry.* Baltimore, Md, Dec. 15, 48. A.B, Mt. St. Mary's, 67; B.S, Harvard, 71; Ph.D, Heidelberg, 76. Asst. chemist, Torpedo Corps, U. S. N, 70–72; instr. chem, Pennsylvania, 72–74; mine and mill manager, 77–83; chemist, U. S. Geol. Surv, 83–92; consulting chemist, 92–00; *expert special agent, Twelfth Census, 00–* Chem. Soc; Min. Eng; Soc. Chem. Indust. Origin and utilization of natural soda; salt-making processes; metallurgy; origin of corundum.

Chatburn, Prof. Geo(rge) R(ichard), 2850 P St, Lincoln, Nebr. *Civil engineering.* Magnolia, Ia, Dec. 24, 63. B.C.E, Iowa State, 84; A.M, Nebraska, 94. Principal, High Sch, Plattsmouth, Nebr, 85–89; supt. schools, Humbold, 89–91; Wymore, 91–94; instr. and later asst. prof. civil eng, *Nebraska,* 94–05, *assoc. prof. applied mech. and machine design, 05–* Eng. Educ; Nebr. Eng. Soc. (sec'y); Nebr. Acad. Portland cement.—Strength of Nebraska grown timber; analytic mechanics.

Chauvenet, William Marc, University Club, St. Louis, Mo. *Mining, Chemistry.* Annapolis, Md, March 4, 55. Washington (St. Louis), 79. Chemist, Mo. Blast Furnace Co, 79; Div. Min. Geol, Tenth Census, 79–82. Chemist, U. S.

Geol. Surv, 82–85. F.A.A; Min. Eng; Chem. Soc. Chemistry of ores; field work in structural and mining geology.

Cheesman, Dr. T(imothy) M(atlack), Garrison, N. Y. *Medicine, Bacteriology.* New York, N. Y, Jan. 29, 53. A.B, Columbia, 74, A.M, 77, M.D, 78. Interne, Bellevue Hosp, 77–79; surgeon, Throat Dept, N. Y. Dispensary, and Eye and Ear Dept, Denult Dispensary, 82; asst. surgeon, Out-patient Dept, N. Y. Hosp, 82–84; attending surgeon, Colored Home Hosp, St. Andrews Convalesc. Hosp, and demonstrator anat, Woman's Med. Col, 82–85; asst. bacter, Columbia, 88–93, instr, 93–99. F.A.A; Ass. Path. and Bact; Soc. Bact; N. Y. Acad. Med; N. Y. Co. Med. Soc; N. Y. Path. Soc; fel. N. Y. Acad. Laboratory methods; water and milk analysis and the relations of bacterial infected water and milk to health.

Cheever, Dr. David W(illiam), 557 Boylston St, Boston, Mass. *Medicine, Surgery.* Portsmouth, N. H, Nov. 30, 31. A.B, Harvard, 52, M.D, 58. *Surgeon, Boston City Hosp, 64–; prof. surg, Harvard, 82–92, emer. prof, 92–* Pres, Boston Med. Library. LL.D, Harvard, 92. Surg. Ass. (pres.); Mass. Med. Soc. (pres.); Acad. de Chirurg. de Paris.

Cheney, Prof. L(ellen) S(terling), 318 Bruen St, Madison, Wis. *Botany.* Essex, O, Dec. 4, 58. B.S, Wisconsin, 91, fellow, 91–92, M.S, 96. Instr. pharmacog. and pharmaceut. bot, *Wisconsin, 92–96, asst. prof. pharmaceut. bot, 96–* F.A.A; Forestry Ass; Bot. Cent. States; Wis. Acad. (treas, 95–99); Wis. Forestry Ass. (sec'y, 95–96, and treas, 96–00). The forest flora and Bryophyta of Wisconsin.—The forest trees of Wisconsin.

Cherrie, Geo(rge) K(ruck), 27 Fairview Place, Brooklyn, N. Y. *Ornithology, Mammalogy.* Knoxville, Ia, Aug. 22, 65. Iowa State, 81–83. Curator birds, mammals and reptiles and taxidermist, Nat. Mus. of Costa Rica, 89–93; asst. curator ornith, Field Columbian Mus, 93–97; *curator birds and mammals, Mus, Brooklyn Inst, 99–* Exploration in Orinoco Valley for Zool. Mus. of Tring, England, 97–99. Mem. Ornith. Union. Birds of Costa Rica and Santo Domingo.—Nesting habits and distribution of birds of the Orinoco region; birds of Long Island, New York.

Chesney, C(ummings) C, Dawes Ave, Pittsfield, Mass. *Electrical engineering.* Selinsgrove, Pa, Oct. 28, 63. B.S, Pa. State, 85. Chemist, Pa. State, 85–86; prof. chem. and math, Doylestown Sem, 86–88; *chief elec. engineer, Stanley Elec. Mfg. Co, 91–; consulting elec. engineer, Northern Elec. Mfg. Co, 00–* Elec. Eng; London Soc. Arts. Design of electrical machinery; methods of transmission of energy by electricity.

Chesnut, V(ictor) K(ing), Montana Experiment Station, Bozeman, Mont. **Chemical botany.* Nevada City, Cal, June 28, 67. B.S, California, 90; Chicago, 93. Instr. chem, California, 93; botanist in charge poisonous plant investigations, U. S. Dept. Agr, 90–04; *chemist, Mont. Exp. Sta, and chemist and geologist, Mont. Agr. Col, 04–* Collaborator poisonous plant investigations, U. S. Dept. Agr, 04– M.A.A; Chem. Soc; West. Ass. Tech. Chem. and Metal; Wash. Acad; Wash. Chem. Soc. (pres, 01–). Poisonous, medicinal and chemically economic plants.—Stock poisoning by lupines, by poison camas and by locoweeds.

Chessin, Prof. Alexander, Washington University, St. Louis, Mo. **Mathematics, Mechanics, Astronomy.* St. Petersburg, Russia, Dec. 11, 65. A.M, Imperial Inst. Hist. and Philol, St. Petersburg, 84; Ph.D, St. Petersburg, 89; C.E, Polytech, Zürich, 92. Lecturer celestial mech, Hopkins, 94–95, assoc. prof. math. and astron, 95–99; *prof. math, Washington (St. Louis), 01–* Lecturer, Harvard, 94; Lowell Inst, Boston, 95; Columbia, Cooper Union, N. Y, and the Chautauqua Assembly, 00. Gold medal, Russian Ministry of Pub. Instruction, 88; special envoy to Italy, 89. Math. Soc. Theory of functions; infinite series; differential equations; Bessel's functions; relative motion, Foucault pendulum; development of perturbative function.—Effect of the earth's rotation on gyroscopes; strains and stresses in a rapidly moving disc.

Chester, Rear Admiral C(olby) M(itchell), U. S. N, Naval Observatory, Washington, D. C. *Astronomy, Naval engineering.* New London, Conn, Feb. 29, 44. Grad, U. S. Naval Acad, 63. Instr. seamanship and naval archit, U. S. Naval Acad, 74–77; in charge parties, Hydrog. Dept. and U. S. Coast and Geod. Surv, 77–80, in charge, Dept, 80–85; commandant cadets, U. S. Naval Acad, 90–94; *supt, U. S. Naval Observatory, 02–* In charge, U. S. China and Corea Surveys, 71–73; lecturer, U. S. Naval War Col, 01–02. F.A.A; Nat. Geog. Soc. Naval architecture; hydrography; astronomy.

Chester, Prof. Frederick D(ixon), Wilmington, Del. *Bacteriology, Mycology.* Santo Domingo, Haiti, Oct. 8, 61. Washington (St. Louis), 76–78; B.S, Cornell, 82, M.S, 85. Prof. geol. and bot, Del. Col, 82–92; *bacteriologist and mycologist, Del. Col. Agr. Exp. Sta, 89–; director, State Bacter. Lab. of Del, 99–* Soc. Bact. (mem. Council, 02–04); Soc. Prom. Agr. Sci. Mycology; bacteriology.

Chester, Prof. W(ayland) M(organ), Hamilton, N. Y. *Biology.* Noank, Conn, March 10, 70. A.B, Colgate, 94, A.M, 96. Asst. geol. and nat. hist, *Colgate,* 94–97, instr. *biol,* 97–00, assoc. prof, 00–04, *prof, 04–* M.A.A; Wash. Biol. Soc. Hemiptera-heteroptera; anatomy and development of the odoriferous glands.

Chickering, Prof. J(ohn) W(hite), The Portner, Washington, D. C. *Botany, Pedagogy.* Bolton, Mass, Sept. 11, 31. A.B, Bowdoin, 52, A.M, 55; Bangor Theol. Sem, 59–60. Teacher and ed, 52–56; principal, Seneca Col. Inst, 57–58; pastor, 60–70; prof. nat. science, Gallaudet, 70–00; *lecturer pedag, Gallaudet and Howard, 00–* F.A.A. (sec'y, I, 85); Forestry Ass;

Nat. Geog. Soc; Social Sci. Ass; Wash. Philos. Soc; Wash. Biol. Soc; Wash. Anthrop. Soc. Botany; pedagogy; social science.

Chilcott, Prof. E(llery) Channing, 619 Tenth St, Brookings, S. Dak. *Geology, Agronomy.* East Hamburg, N. Y, April 8, 59. M.S, S. Dak. Agr. Col, 88. *Prof.* agr, *S. Dak. Agr. Col,* 93–97, *geol. and agron,* 97– U. S. deputy surveyor and compassman, 82–90; agriculturist, S. Dak. Exp. Sta, 93–, v. director, 97–; collaborator, U. S. Dept. Agr. M.A.A; Nat. Geog. Soc; S. Dak. Hist. Soc. Soil physics; mechanical analysis of soils; movement of soil water; crop rotation and adaptation; plant breeding and selection; animal nutrition.—Conservation and movement of soil moisture; crop rotation; cereals; glacial drift of South Dakota.

Child, Dr. C(harles) M(anning), University of Chicago, Chicago, Ills. **Zoology.* Ypsilanti, Mich, Feb. 2, 69. Ph.B, Wesleyan, 90, M.S, 92; Ph.D, Leipzig, 94. Asst. biol, Wesleyan, 90–92; *zool, Chicago,* 95–98, assoc, 98–04, *instr, 04–* Instr, Woods Hole, 95–97; holder, Agassiz Table, Naples Zool. Sta, 94, 02–03. F.A.A; Soc. Nat; Soc. Zool. Sense organs of insects; cell lineage of annelids; regeneration.—Regulation and regeneration in platyhelminthes and coelenterates.

Child, Prof. C(lement) D(exter), Hamilton, N. Y. **Physics.* Madison, O, May 15, 68. A.B, Rochester, 90; Ph.D, Cornell, 97; Berlin and Cambridge, 97–98. Instr, high schools, 90–92; *physics,* Cornell, 92–97; *prof, Colgate, 98–* F.A.A; Physical Soc. Electrical discharge through gases caused by X-rays, flames and hot bodies; discharge produced by hot carbon; the electric arc.

Chittenden, Dr. F(rank) H(urlbut), 1323 Vermont Ave, Washington, D. C. *Entomology.* Cleveland, O, Nov. 3, 58. Mt. Union, 75–76; licentiate, Cornell, 81. Asst. entomologist, *U. S. Dept. Agr,* 91–02, *entomologist in charge breeding experiments, 02–* Asst. ed, 'Entomologica Americana,' 89–90. Hon. Sc.D, Western Univ. of Pa, 04. F.A.A; Ass. Econ. Entom; Wash. Entom. Soc; Brooklyn Entom. Soc. Insects injurious to vegetable crops, garden and greenhouse plants and stored products; Coleoptera.

Chittenden, Prof. J(onathan) Brace, Harvard Club, New York, N. Y. *Mathematics.* Milford, Conn, May 13, 64. B.S, Brooklyn Polytech, 84; M.E, C.E, Worcester, 88; A.B, Harvard, 89, A.M, 90; Ph.D, Königsberg, 92; mem. N. Y. Bar, 02. Instr. *math,* Princeton, 92–94; tutor, Columbia, and instr, Barnard, 94–99; *prof, Brooklyn Polytech, 00–* M.A.A; Math. Soc; Brooklyn Inst. (sec'y, Math. Sect.). The functions of Lamé; binary forms.

Chittenden, Prof. Russell H(enry), 83 Trumbull St, New Haven, Conn. **Physiological chemistry, Physiology.* New Haven, Feb. 18, 56. Ph.B, Yale, 75; Heidelberg, 78–79; Ph.D, Yale, 80. *Prof. physiol. chem, Yale, 82–, director, Sheffield Sci. Sch, 98–* Lecturer physiol. chem, Columbia, 98–03; assoc. ed, 'Am. Jour. Physiol.' and 'Jour. of Exp. Med.' LL.D, Toronto, 03; hon. Sc.D, Pennsylvania, 04. Nat. Acad; F.A.A; Soc. Nat. (pres, 93); Physiol. Soc. (pres, 95–04); Philos. Soc. Physiological chemistry.

Christian, Dr. Henry A(sbury), 688 Boylston St, Boston, Mass. *Medicine.* Lynchburg, Va, Feb. 17, 76. A.B, A.M, Randolph-Macon, 95; M.D, Hopkins, 00; A.M, Harvard, 03. Asst. pathologist, Boston City Hosp, 00–02; *instr.* path, *Harvard,* 02–05, *theory and practise of physic, 05–* Ass. Path. and Bact; assoc. mem. Am. Physicians; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. Dermoid cysts and teratomata of anterior mediastinum; neuroglia and ependymal epithelium of teratomata; leucocytotoxins.—Pulmonary embolism.

Christie, James, Wissahickon, Philadelphia, Pa. *Mechanical engineering.* Near Ottawa, Can, Aug. 28, 40. Pub. schools. *Chief engineer, Mech. Eng. Dept, Pencoyd Iron Works, 76–; Am. Bridge Co, 99–* Norman medal, Civil Eng, 84. F.A.A; Mech. Eng; Civil Eng; Franklin Inst; Phila. Eng. Club. Resistance of columns; structural steel.—Strength of cement concretes; heat treatment of steel; strength of materials.

Christy, Prof. S(amuel) B(enedict), 2234 Piedmont Ave, Berkeley, Cal. *Mining and metallurgical engineering.* San Francisco, Cal, Aug. 8, 53. Ph.B, California, 74. Instr. chem. and grad. student, *California,* 74–79, instr. *mining and metal,* 79–84, *prof, 84–* Assoc. ed, 'Mining and Sci. Press,' 78–79. Hon. Sc.D, Columbia, 02. Min. Eng. (v. pres.); Eng. Educ. (v. pres.); Cal. Acad; Cal. State Miners Ass; London Inst. Min. and Metal; S. Africa Chem. Metal. and Min. Soc. Mining and metallurgy of precious metals and quicksilver.—Electrodeposition of gold and silver from cyanid solutions; treatment of ores by cyanid solutions; chlorination and lixiviation of gold and silver ores.

Chrysostom, Brother (Joseph J. Conlan), Manhattan College, New York, N. Y. *Philosophy, Psychology.* New Haven, Conn, April 1, 63. A.B, Manhattan, 81, A.M, 03. Instr. English, La Salle, 81–82; teacher Latin, St. Joseph's Col, Buffalo, 85–88; asst. prof. philos, *Manhattan,* 88–90, *prof,* 90–94, *philos. and psychol, 94–* Psychol. Ass; Philos. Ass. Scholastic philosophy and modern science; psychology as applied to pedagogy.—Memory experiments and their application to pedagogy; suggestion as a factor in the formation of character; limitations of free-will; the individual.

Church, Prof. I(rving) P(orter), 9 South Ave, Ithaca, N. Y. *Applied mechanics and hydraulics.* Ansonia, Conn, July 22, 51. C.E, Cornell, 73, M.C.E, 78. Asst. prof. civil eng, *Cornell,* 76–91, assoc. prof, 91–92, *prof. applied mech. and hydraul, 92–* Assoc. Civil Eng; Cornell Ass. Civil Eng. Applied mechanics and hydraulics (mathematical and experimental.—Torsion of metallic prisms.

Churchill, Hon. J(oseph) R(ichmond), 32 Percival St, Dorchester, Mass. *Botany.* Dorchester, July 29, 45. A.B, Harvard, 67; Law Sch, Harvard, 69. *Judge, Munic. Court, Dorchester Dist, 71–* New Eng. Bot. Club (past v. pres). Phenogamic botany.

Churchill, Dr. William, 699 West Divinity Hall, New Haven, Conn. *Psychology, Philosophy.* New Britain, Conn, Nov. 3, 76. A.B, Yale, 97, Ph.D, 01. *Tutor philos, Yale, 02–* F.A.A; Psychol. Ass; Philos. Ass. Orientation of touch impressions.—Reaction-time for colors.

Chute, H(oratio) N(elson), 221 N. Ingalls St, Ann Arbor, Mich. *Physics.* Grovesend, Ont, Dec. 26, 47. Baptist Col, Woodstock, Ont, 60–63; B.S, Michigan, 72, M.S, 75. Principal pub. schools, Aylmer, Ont, 66–67; asst. prof. Latin, Woodstock (Can.), 67–70; astron. work, Detroit Observatory, 72–73; *instr. physical science, High Sch, Ann Arbor, 73–* Assoc. ed, 'School Science,' 00–04. F.A.A. Methods of teaching physics.

Claghorn, Clarence R(aymond), Tacoma, Wash. *Mining, Geology, Engineering.* Philadelphia, Pa, Aug. 10, 64. B.S, Pennsylvania, 84. Supt, Lackawanna Iron and Steel Co; *gen. manager, Northwestern Improv. Co.* Geol. Soc; Min. Eng; Franklin Inst; N. of England Inst. Min. and Mech. Eng.

Clapp, Prof. Cornelia M(aria), Mount Holyoke College, South Hadley, Mass. **Zoology.* Montague, Mass, March 17, 49. Ph.B, Syracuse, 88; Ph.D, Chicago, 96. *Prof. zool, Mt. Holyoke, 73–* On staff, Woods Hole. F.A.A; Soc. Zool; Ass. Anat. Neurology; experimental embryology.—Oogenesis of Opsanus tau.

Clark, Prof. Arthur L(ewis), 18 Frye St, Lewiston, Me. *Physics.* Worcester, Mass, Feb. 19, 73. B.S, Worcester, 94; Clark, 96–98, Ph.D, 04. Instr. math. and physics, Bridgton Acad, 95–96; Worcester Acad, 98–00; instr. *physics, Bates,* 00–01, *prof, 01–* Physical Soc; Me. Acad. Med. and Sci. Dielectric properties of oils; angle of lag.—Molecular properties of ether vapor.

Clark, Dr. Friend E(benezer), Central University of Kentucky, Danville, Ky. *Chemistry.* New Martinsville, W. Va, Aug. 21, 76. B.S, West Virginia, 98; Ph.D, Hopkins, 02. Assoc. *chem,* West Virginia, 02–03; instr, Pa. State, 03–05; *prof, Central Univ. of Ky, 05–* Prof. geol, Summer Sch, West Virginia, 03. M.A.A; Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; fel. London Chem. Soc; Chem. Gesell. The action of substituted ammonias of the aliphatic series on the chlorids of orthosulphobenzoic acid.—Molecular weights of aluminium compounds; organic chemistry; physical chemistry.

Clark, Prof. Gaylord P(arsons), 619 W. Genesee St, Syracuse, N. Y. **Physiology.* Syracuse, Nov. 12, 56. A.B, Williams, 77, A.M, 80; M.D, Syracuse, 80. *Prof.* anat, Col. Med, Syracuse, 81–91, *physiol,* 91–97, *Syracuse, 97–* F.A.A; Soc. Nat; Physiol. Soc; Micros. Soc. Equilibrium in Crustacea; pressure sensations.

Clark, Harry Willard, North Andover, Mass. *Sanitary chemistry and engineering, Bacteriology.* Melrose, Mass, Sept. 15, 63. Cornell, 86; Mass. Inst. Tech, 87. Asst. chemist, *Lawrence Exp. Sta,* 87–93, *chemist in charge, 93–; chief chemist, State Board of Health, Mass, 97–* Soc. Bact; Chem. Soc; Pub. Health Ass; New Eng. Water Works Ass; Boston Soc. Civil Eng. Purification of water and sewage and allied subjects.

Clark, Prof. H(ubert) L(yman), Cambridge, Mass. *Zoology.* Amherst, Mass, Jan. 9, 70. A.B, Amherst, 92; Ph.D, Hopkins, 97. Instr. biol, Amherst, 97–99; prof, Olivet, 99–05; *asst. in charge lower invertebrates, Mus. Comp. Zool, Harvard, 05–* Investigator, U. S. Fish Commission, 99, 02. F.A.A; mem. Ornith. Union; Nat. Cent. States; Mich. Acad. (chairman, Zool. Sect, 01–03); Boston Soc. Nat. Hist; Wash. Biol. Soc. Embryology, morphology and distribution of echinoderms; pterylography of birds; variation in snakes.—Apodous holothurians; echinoderms of the 'Albatross,' 00; Pacific echinoids.

Clark, John A(nson), Commercial High School, Brooklyn, N. Y. *Physics.* Newark Valley, N. Y, Jan. 9, 74. B.S, Cornell. *Teacher physics,* High Sch, Ithaca, N. Y, 96–03; *Commercial High Sch, Brooklyn, 03–* Physical Soc. Effects of an electrostatic change on surface tension.—Conductivity of electrolytes in gelatinous solutions; ultra-violet photography.

Clark, Prof. John B(ates), 616 W. 113th St. New York, N. Y. *Political economy.* Providence, R. I, Jan. 26, 47. Brown, 65–67; A.B, Amherst, 72; Heidelberg and Zürich, 73–75; A.M, Amherst, 75. *Prof.* econ. and hist, Carleton, 77–81; Smith, 82–93; *polit. econ,* Amherst, 92–95; *Columbia, 95–* Lecturer, Hopkins, 92–95; mem. Advisory Committee on Econ, Carnegie Inst. Hon. Ph.D, Amherst, 90; LL.D, Princeton, 96; Amherst, 97. Econ. Ass. (pres, 94–96). The distribution of wealth; monopolies; economic dynamics; the philosophy of wealth.

Clark, Dr. John G(oodrich), 218 S. 15th St, Philadelphia, Pa. *Surgery.* Economy, Ind, June 4, 67. M.D, Pennsylvania, 91; Hopkins, Leipzig and Prague. Assoc. *gynec,* Hopkins, 98–99; *prof, Pennsylvania, 00–* Life history of the ovary; function of the peritoneum.—Function of the omentum; elimination of pathogenic germs from the peritoneal cavity.

Clark, V(inton) A(lbert), Experiment Station Farm, Phoenix, Ariz. *Horticulture.* Tolland, Conn, Aug. 18, 72. B.S, Vermont, 98, M.S, 04. Asst. ed, U.S. Dept. Agr, 98–01; asst. horticulturist, N. Y. Agr. Exp. Sta, Geneva, 02–04; *agriculturist and horticulturist, Ariz. Exp. Sta, 04–* M.A.A; Soc. Hort. Sci. (sec'y, 04–05). Seed selection according to specific gravity; adapting local climatic environment to semi-hardy crops.

Clark, Prof. W(illia)m Bullock, 8 E. Read St, Baltimore, Md. **Geology.* Brattleboro, Vt, Dec. 15, 60. A.B, Amherst, 84; Ph.D, Munich, 87.

Instr. *geol, Hopkins,* 87–89, assoc, 89–92, assoc. prof, 92–95, *prof, 95–;* asst. geologist, *U. S. Geol. Surv,* 88–94, *geologist, 94–; state geologist, Md, 96–* Director, Md. State Weather Service, 92–; Md. commissioner, Resurvey of Mason and Dixon's Line, 00–; assoc. ed, 'Jour. of Geol.' F.A.A; Geol. Soc; Philos. Soc; Wash. Acad; for. cor. London Geol. Soc; Geol. Gesell. Geology and paleontology of the Mesozoic-Cenozoic formations of the Atlantic coastal plain; Paleozoic of the Appalachian district; Eocene of the United States.—Carboniferous of western Maryland; Mesozoic-Cenozoic Echinodermata.

Clarke, Prof. Benj(amin) F(ranklin), 89 Brown St, Providence, R. I. *Mechanical engineering.* Newport, Me, July 14, 31. A.B, Brown, 63, A.M, 66. Instr. math, *Brown,* 63–68, *prof. math, civil and mech. eng, 68–* Acting pres, Brown, 96–97, pres. ad interim, 98–99. Hon. Sc.D, Brown, 97.

Clarke, Miss Cora H, 91 Mt. Vernon St, Boston, Mass. *Botany.* Meadville, Pa, Feb. 9, 51. Private sch. M.A.A; Mass. Hort. Soc; Boston Soc. Nat. Hist. Caddis-worms; insect-galls.—Mosses of New England; seaweeds.

Clarke, Prof. F(rank) W(igglesworth), 1612 Riggs Place, Washington, D. C. **Chemistry.* Boston, Mass, March 19, 47. B.S, Harvard, 67. Instr. chem, Cornell, 69; prof, Howard, 73–74; Cincinnati, 74–83; *chief chemist, U. S. Geol. Surv, 83–* Mem. Jury of Awards, Paris Expos, 00; Govt. Board at seven expositions. Chevalier Légion d'honneur, 00; hon. Sc.D, Columbian, 99; Victoria Univ, England, 03. F.A.A. (sec'y, Subsect. Chem, 75, v. pres, 78–79); Chem. Soc. (pres, 01); Philos. Soc; Wash. Acad; Wash. Philos. Soc. (pres, 96); hon. mem. London Chem. Soc; cor. mem. British Ass; cor. mem. Edinburgh Geol. Soc; hon. mem. Manchester Lit. and Philos. Soc. Inorganic chemistry; mineralogy; recalculation of atomic weights.—Constitution of silicates; thermochemical constants.

Clarke, Prof. John M(ason), State Hall, Albany, N. Y. **Paleontology, Geology.* Canandaigua, N. Y, April 15, 57. A.B, Amherst, 77, A.M, 82; Göttingen, 82–84. Instr. geol, Amherst, 79; prof. geol. and zool, Smith, 81–85; lecturer geol, Mass. Agr. Col, 85; asst. state paleontologist, N. Y, 86; *prof. geol, Rensselaer, 94–;* state paleontologist, *N. Y,* 98–04, *state geologist and paleontologist, and director, State Mus. and Sci. Div, Dept. Educ, 04–* Co-editor, 'Am. Geologist,' 93– Hon. A.M. and Ph.D, Marburg, 98; LL.D, Amherst, 02. F.A.A; Geol. Soc; Nat. Geog. Soc; Wash. Acad; Natur-hist. Verein. d. preussisch. Rheinlände; Geol. Gesell; St. Petersburg Imp. Miner. Soc. Composition, evolution and migration of Paleozoic faunas; origin, classification and cartography of Paleozoic rocks; structure of Paleozoic organisms; geological history of parasitism.

Clarke, Prof. Samuel Fessenden, Williamstown, Mass. **Biology.* Geneva, Ills, June 4, 51. Ph.B, Yale, 78; Ph.D, Hopkins, 79; A.M, Williams, 91. *Prof. nat. hist, Williams, 81–* F.A.A; Soc. Nat; Soc. Zool; Am. Acad. Hydroids of the American coast; embryology of the American alligator.

Claypole, Dr. Edith J(ane), 50 S. Grand Ave, Pasadena, Cal. *Physiology, Pathology.* Bristol, England, Jan. 1, 70. Ph.B, Buchtel, 92; M.S, Cornell, 93; Mass. Inst. Tech, 94; M.D, South. Cal, 04. Instr. physiol. and histol, Wellesley, 94–99; acting head, Dept. Zool, 96–98; asst. physiol, Cornell, 99–01; instr. biol, Throop, 01–02; *pathologist to Drs. Bridge and Cole, Los Angeles, 02–* Wellesley Col. Table, Woods Hole, 95. F.A.A; fel. S. Cal. Acad. Histology; physiology.

Clayton, H(enry) H(elm), Blue Hill, Hyde Park, Mass. *Meteorology.* Murfreesboro, Tenn, March 12, 61. Private and pub. schools. Student asst, Astron. Observatory, Michigan, 84–85; asst, Harvard Col. Observatory, 85–86; observer, Blue Hill Meteorol. Observatory, 86–91; local forecast official, U. S. Weather Bur, 91–93; *meteorologist, Blue Hill Meteorol. Observatory, 94–* Geog. Ass; Am. Acad; Boston Sci. Soc. (pres, 99–). Periodic changes in weather; forms, movements and origin of clouds; temperature, humidity, etc, of the upper air; meteorological effects of solar eclipses.—Id; cyclone and anticyclone in the upper air.

Cleghorn, Dr. Allen (Mackenzie), 394 Harvard St, Cambridge, Mass. **Physiology, Medicine.* London, Ont, Feb. 2, 72. M.D, C.M, Trinity and Victoria, 92; licentiate, Royal Col. Physicians and Surg, Edinburgh, 93; Glasgow, 93; London and Edinburgh Hospitals. Res. med. supt, Toronto Home for Incurables, 92; instr, Vet. Sch, *Harvard,* 99–00, asst. physiol, *Med. Sch,* 98–01, *lecturer foods and feeding, 01–* Physiol. Soc; Boston Soc. Med. Sci; Bowditch Club (sec'y, 01–02, chairman, 05). Heart; internal secretion; muscular relaxation; respiration; inhibition; castration; activity and weight; smooth muscle.—Effect of CO_2 and O_2 on smooth muscle; effect of fatigue products on heart muscle.

Cleland, Prof. H(erdman) F(itzgerald), Williamstown, Mass. *Geology.* Milan, Ills, July 13, 69. A.B, Oberlin, 94; Ph.D, Yale, 00; Cornell, 01. Instr. nat. science, Gates, 95–98; *prof. geol. and bot, Williams, 01–* Instr. geol, Summer Sch, Cornell, 00–02; Tennessee, 04. Fossil faunas of the Hamilton formation; Calciferous of the Mohawk Valley.—Wisconsin Devonian.

Clements, Prof. Frederic E(dward), 646 N. 13th St, Lincoln, Nebr. **Botany.* Lincoln, Sept. 16, 74. B.S, Nebraska, 94, A.M, 96, Ph.D, 98. Asst. bot, *Nebraska,* 94–97, instr, 97–01, adj. prof, 01–03, asst. prof, 03–05, *assoc. prof. plant physiol, 05–* Sec'y, Nebr. Bot. Surv, 94– F.A.A; Bot. Soc; Geog. Ass; Bot. Cent. States; Micros. Soc; Mycol. Soc. Ecology, histogenesis and cytology; taxonomy of fungi.—Quantitative analysis of the habitat; experimental evolution and experimental vegetation; alpine vegetation.

Clements, Dr. J(ulius) Morgan, 15 Williams St, New York, N. Y. *Geology, Mining.* Montgomery, Ala, Feb. 12, 69. A.B, Alabama, 87; Ph.D, Leipzig, 90; Bergakad, Freiberg, 90; Munich, 90–91; Heidelberg, 91; École des Mines, Paris, 91–92. Asst, Ala. Geol. Surv, 92–93; asst. prof. geol, Wisconsin, 93–03; asst. geologist, U. S. Geol. Surv, 93–03; *economic geologist and mining engineer, N. Y. City, 03–* F.A.A; Geol. Soc; Min. Eng; Wis. Acad. Structural, economic and petrographical geology.—Copper deposits, Bisbee, Arizona.

Clendenin, W(illiam) W(allace), 53 W. 104th St, New York, N. Y. *Geography, Geology.* Audrain Co, Mo, April 5, 62. B.S, Missouri, 86, M.S, 89; Morgan fellow, Harvard, A.M, 91. Asst. geol, Missouri, 87–93; prof. geol, Louisiana, and geologist, La. Agr. Surv, 93–98; supt, Blees Mil. Acad, 99–00; *teacher physiog, Wadleigh High Sch, N. Y. City, 00–* M.A.A; Am. Geog. Soc; La. Soc. Nat. Volcanoes and glaciers of Europe; ancient high-level beaches about the Great Lakes; Louisiana geology; origin of 'pimpled prairies' of Louisiana and Texas.

Clinton, Dr. G(eorge) P(erkins), Agricultural Experiment Station, New Haven, Conn. *Botany.* Polo, Ills, May 7, 67. B.S, Illinois, 90, M.S, 94; M.S, Harvard, 01, Sc.D, 02. Asst. botanist, Ills. Agr. Exp. Sta, and asst. bot, Illinois, 90–02; *botanist, Conn. Agr. Exp. Sta, 02–* Botanist, Conn. Board of Agr, 02– M.A.A; Soc. Plant Morph. and Physiol; Mycol. Soc; New Eng. Bot. Club; Conn. Bot. and Pomol. Societies; Int. Ass. Bot. Fungi, especially Ustilagineae.—Economic fungi of Connecticut.

Clinton, Prof. L(ouis) A(delbert), Storrs, Conn. *Agronomy.* Grand Rapids, Mich, Feb. 13, 68. B.S, Mich. Agr. Col, 89; Cornell, 00–02; M.S, Mich. Agr. Col, 02. Asst. to director, Mich. Exp. Sta, 90–93; asst. prof. agr, Clemson, 93–95; asst. agriculturist, Cornell Exp. Sta, 96–02; *director, Storrs Agr. Exp. Sta, and prof. agron, Conn. Agr. Col, 02–* Soc. Prom. Agr. Sci. Soil physics and crop production.—Effect of tillage upon crop production.

Close, Prof. C(harles) P(hillip), Newark, Del. *Horticulture.* New Buffalo, Mich, Jan. 21, 68. B.S, Mich. Agr. Col, 95, M.S, 97. Asst. hort, N. Y. Agr. Exp. Sta, Geneva, 95–99; *prof.* hort, bot. and entom, Utah Agr. Col, 99–01; *hort, Delaware, and Agr. Exp. Sta, 01–* Soc. Hort. Sci; Pomol. Soc; Breeders' Ass. Horticulture. —Dust spraying of fruit trees; fertilizers on apple and peach orchards; top-grafting; root-pruning; K L mixtures as insecticides; plant breeding.

Clover, Dr. A(lphonso) Morton, Manila, P. I. *Chemistry.* Galion, O, April 25, 75. B.S, Michigan, 99, Parke Davis and Co. fellow, 99–00, Ph.D, 04. Asst. gen. chem, Michigan, 00–01, acting instr, 01–02, instr, 02–04; *head, Div. Econ. Products, Bur. Govt. Laboratories, P. I, 04–* Acting director, Chem. Lab, Bur. Govt. Laboratories, P. I, 04–05. The constituents of Jamaica dogwood; preparation of halogen-substituted organic acids; peroxids; formation of and hydrolysis of organic peroxids.—Sesquiterpins.

Clute, Willard N(elson), Binghamton, N. Y. *Botany.* Painted Post, N. Y, Feb. 27, 69. High Sch. Asst, Herbarium, Columbia, 96–97; N. Y. Bot. Garden, 97–99; *pres, W. N. Clute and Co, 97–; instr. biol, Township High Sch, Joliet, Ills, 03–* Founder and ed, 'Ornith. and Bot,' 90; publisher and part owner, 'Plant World,' 97–99; 'Bryologist,' 98–99; ed. and publisher, 'Fern Bul,' 93–; 'Am. Botanist,' 01– Grand prize, Paris Expos, 00. Binghamton Acad. (sec'y, 93–96, 01–02). Ecological and economic botany.

Clutz, Dr. F(rank) H(ollinger), Chambersburg, Pa. *Mathematics, Engineering.* Newville, Pa, June 29, 73. A.B, Midland, 92; Ph.D, Hopkins, 97. Prof. math, Carthage, 98–99; *practising civil engineer, 99–* Math. Soc.

Coar, Dr. Henry L(ivingston), 930 W. Illinois St, Urbana, Ills. *Mathematics.* London, England, June 16, 62. Hopkins, 84–86; A.B, Harvard, 93, A.M, 94; Ph.D, Illinois, 03. Teacher *math,* secondary schools, 86–92; *instr,* Harvard, 93–95; Michigan, 95–97; *Illinois, 98–* Theory of functions of a real variable.

Coates, Prof. Charles E(dward), Baton Rouge, La. *Chemistry.* Baltimore, Md, Aug. 13, 66. A.B, Hopkins, 87; Freiberg, 88; Heidelberg, 89; Ph.D, Hopkins, 91. *Prof. chem,* St. John's (Md.), 91–93; *Louisiana, 93–* M.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Anil and anilids of orthosulphobenzoic acid; pure and applied chemistry in connection with sugar cane and cotton; hydrocarbons in Louisiana petroleum.—Chemistry of cane juice.

Cobb, Prof. Collier, Chapel Hill, N. C. *Geology.* Near Goldsboro, N. C, March 21, 62. Wake Forest, 78–80; North Carolina, 80–81; A.B, Harvard, 89, A.M, 94. Supt. schools, Wilson, N.C, 85–86; lecturer, N. C. state nor. schools, 84–88; asst. *geol,* Harvard, 88–90; instr, Mass. Inst. Tech, 90–92; asst. prof, *North Carolina,* 92–93, *prof, 93–* Asst, U. S. Geol. Surv, 86–91; Summer Sch, Harvard, 91; North Carolina, 94–01, 03–04; Knoxville, 02; Biltmore Forest Sch, 05. F.A.A; Geol. Soc; Boston Soc. Nat. Hist; Elisha Mitchell Sci. Soc. River and valley development; movements of sand waves.—Sandbars and sand waves along the North Carolina coast; origin of potash and other plant foods in the coastal plain of the Carolinas and Georgia; mineral analysis of rocks and their residual soils.

Cobb, Dr. N(athan) A(ugustus), Care Mrs. Jane A. Cobb, Leicester, Mass. *Natural science.* Spencer, Mass, June 30, 59. B.S, Worcester, 81; Ph.D, Jena, 88. Teacher, pub. schools, Spencer; prof. nat. science, Williston Sem, Easthampton, Mass, 83–87; acting prof. biol, Sydney Univ, N. S. W, 90; pathologist, Dept. Agr, Sydney, 90–98; special commissioner to the U.S.A. and Europe for the govt. of N.S.W, 98–

01; *pathologist, Dept. Agr, Sydney, 01–* Hon. mem. Med. Cong. of Australasia. Australasian A.A.S; New South Wales Linnean Soc. Biology; physiology; pathology; chemistry; photography.—The prevention and cure of crop blights; parasites of domestic animals.

Coble, Dr. A(rthur) B(yron), Johns Hopkins University, Baltimore, Md. *Mathematics.* Williamstown, Pa, Nov. 3, 78. A.B, Gettysburg, 97, A.M, 00; fellow, Hopkins, 01–02, Ph.D, 02. Student asst. math, Hopkins, 00–01; instr, Missouri, 02–03; Carnegie research asst, 03–04; *instr. math, Hopkins, 04–* Math. Soc. Theory of invariants.—Covariant curves associated with the Hessian and Steinerian; invariant theory of connex (2, 2).

Coblentz, Prof. V(irgil), 115 W. 68th St, New York, N. Y. *Chemistry.* Springfield, O, March 12, 62. Wittenberg, 78; Phila. Col. Pharmacy, 82; Göttingen, 87; Strasburg, 88; Ph.D, Berlin, 91; Würzburg, 95; Munich, 97, 99. *Prof.* mat. med. and toxicol, Cincinnati Col. Pharmacy, 84–86; *chem, N. Y. Col. Pharmacy, 91–* Sub-chairman, Commission of Revision, U. S. Pharmacopœia. Ebert prize, 97; hon. Pharm. M, Phila. Col. Pharmacy, 96. Chem. Soc; fel. Soc. Chem. Indust. (chairman, N. Y. Sect, 02–04, v. pres, 05); Pharmaceut. Ass; fel. London Chem. Soc; Chem. Verein. Organic and pharmaceutical chemistry.—Inorganic and organic medicinal chemicals; newer synthetic medicinals.

Coblentz, Dr. William Weber, Poland, O. *Physics.* North Lima, O, Nov. 20, 73. B.S, Case, 00; A.M, Cornell, 01, Ph. D, 03. *Carnegie research asst. and hon. fellow, Cornell, 03–* Optical properties of iodin; selective absorption of fuchsin and cyanin; infra-red emission spectrum of the mercury arc; methods of measuring radiant efficiency.—Infra-red emission spectra.

Cochran, Prof. C(arlos) B(ingham), 514 S. High St, West Chester, Pa. *Chemistry.* Albion, Mich, July 1, 54. A.B, Michigan, 77, Med. Dept, 78–79, A.M, 82. *Teacher* chem. and physical science, 79–03, *chem, 03–* Chemist, Pa. Board Agr, 85–; Phila. Milk Exchange, 89–; to dairy and food commissioner, Pa. State Dept. Agr, 95– F.A.A; Chem. Soc; Franklin Inst. Food products.

Cockerell, T(heodore) D(ru) A(lison), Boulder, Colo. **Biology.* Norwood, Surrey, England, Aug. 22, 66. English private schools; Middlesex Hosp. Med. Sch, London; British Mus. Nat. Hist. Curator, Pub. Mus, Kingston, Jamaica, 91–93; entomologist, N. Mex. Agr. Exp. Sta, 93–01; prof. entom. and zool, N. Mex. Agr. Col, 93–96, 98–00; teacher biol, N. Mex. Nor. Univ, 00–03; *consulting entomologist, Ariz. Agr. Exp. Sta, 01–*; curator, Colo. Col. Mus, 03–04; *lecturer entom, Colorado, biol, Colo. State Prep. Sch, 04–* F.A.A; Ass. Econ. Entom; cor. mem. Entom. Soc; Wash. Biol. Soc; Wash. Entom. Soc; cor. mem. Phila. and Davenport Academies; hon. mem. Ont. Entom. Soc; Inst. of Jamaica; cor. mem. Soc. Sci. du Chile; fel. London Zool. Soc. Entomology (Coccidae, Hymenoptera); geographical distribution of life; variation of animals and plants; Mollusca, especially slugs; botany of the Rocky Mountain region; problems of evolution.—Coccidae; Hymenoptera apoidea; fauna and flora of the Rocky Mountains.

Coe, Prof. George A(lbert), 620 University Place, Evanston, Ills. *Philosophy.* Mendon, N. Y, March 26, 62. A.B, Rochester, 84, A.M, 88; Ph.D, Boston, 91. Prof. *philos,* Southern California, 88–90; acting prof, *Northwestern,* 91–93, *prof, 93–* Lecturer psychol. of religion, Sch. of Theol, Boston, 00; Divinity Sch, Harvard, summer, 02–03. Philos. Ass; Psychol. Ass. Psychology and philosophy of religion.

Coe, Prof. Wesley Roswell, 2 Hillhouse Ave, New Haven, Conn. **Comparative anatomy and embryology.* Middlefield, Conn, Nov. 11, 69. Conn. Agr. Col, 88; Ph.B, Yale, 92, Ph.D, 95; Würzburg, 95–96; Naples, 96. Asst. biol, *Yale,* 92–95, instr. *comp. anat,* 96–01, *asst. prof, 02–* Mem. Harriman Alaska Exped, 99. Soc. Nat; Soc. Zool; Conn. Acad. Worms; nemerteans; embryology.

Coffin, Prof. J(oseph) G(eorge), 70 Florence St, Worcester, Mass. *Physics.* Pittsburg, Pa, June 14, 77. Cantonal Col, Switzerland, 92; Paris, 94; B.S, Mass. Inst. Tech, 98; Ph.D, Clark, 03. Asst. *physics,* Mass. Inst. Tech, 98–00; Clark, 01–03, instr, Clark Col, 02–03, *docent, Clark, and asst. prof, Clark Col, 03–* Physical Soc; Boston Math. and Physical Club; hon. men. Mass. Inst. Tech. Ass. Elec. Eng. Measurement of high temperature; metallic deposits from kathodes in vacua; total reflection of light; theory, calculation and construction of standards of self-inductance.—The ratio of the electrical units.

Coffin, Prof. Selden J(ennings), Lafayette College, Easton, Pa. *Mathematics, Meteorology.* Ogdensburg, N. Y, Aug. 3, 38. A.B, Lafayette, 58, A.M, 61. Tutor and adj. prof. math, *Lafayette,* 64–76, prof, 76–86, registrar, 86–04, *prof. astron, 95–* Hon. Ph.D, Hanover, 76. F.A.A; Astron. and Astrophys. Soc; Pa. Hist. Soc; Trinity and Moravian Hist. Societies. Pennsylvania biography.—History; biography.

Coggeshall, Dr. G(eorge) W(hiteley), Chestnut St, Dedham, Mass. *Physical chemistry.* Des Moines, Ia, Dec. 21, 67. B.S, Iowa (Grinnell), 90; Harvard, 91–92; Ph.D, Leipzig, 95. Asst. chem, Iowa (Grinnell), 88–90; instr. physical chem, Harvard, 95–97; *mfg. chemist, Boston, 97–* Instr, Summer Sch, Harvard, 92. Chem. Soc; Electrochem. Soc; Elektrochem. Gesell. Standard calomel electrodes.—Electric potential of metals toward solutions.

Coghill, Prof. G(eorge) E(llett), Forest Grove, Ore. *Comparative neurology.* Beaucoup, Ills, March 17, 72. A.B, Brown, 96; M.S, New Mexico, 99; fellow, Brown, 01–02, Ph.D, 02. Asst. prof. *biol,* New Mexico, 99–00; *prof, Pacific, 02–* Collaborator, 'Jour. Comp. Neur. and Psychol.' F.A.A; Soc. Nat; Soc. Zool; Ass.

Anat. The cranial nerves of Amblystoma.—The components of the cranial nerves of Amphibia.

Cogshall, Prof. W(ilbur) A(delman), Bloomington, Ind. *Astronomy.* Mendon, Mich, Feb. 8, 74. B.S, Albion, 95; A.M, Indiana, 02; Yerkes Observatory, 03–04. Asst, Lowell Observatory, Flagstaff, Ariz, 96–97, 98–00; instr. mech. and astron, *Indiana,* 00–04, *asst. prof. astron, 04–* Double stars.—Id; the annual parallax of certain stars.

Cogswell, W(illiam) B(rowne), Syracuse, N. Y. *Chemistry.* Oswego, N. Y, Sept. 22, 34. Rensselaer, 52, C.E, 84. In charge, Mech. Dept, Brooklyn Navy Yard, 61–65; La Motte Lead Mines, Mo, 74–79; founder, *v. pres. and managing director, Solvay Process Co, Syracuse and Detroit, 81–* F.A.A; Civil Eng; Min. Eng; Mech. Eng; Soc. Chem. Indust; Nat. Geog. Soc; Am. Geog. Soc.

Cohen, Dr. Abraham, 1744 Park Ave, Baltimore, Md. *Mathematics.* Baltimore, Sept. 11, 70. Baltimore City Col, 83–88; A.B, Hopkins, 91, Ph.D, 94; Paris, 94–95. Instr. *math, Hopkins,* 95–98, *assoc, 98–* Co-editor, 'Am. Jour. Math,' 99– Math. Soc. Differential equations.

Cohen, Dr. S(olomon) Solis, 1525 Walnut St, Philadelphia, Pa. *Medicine, Therapeutics.* Philadelphia, Sept. 1, 57. A.B, Central High Sch, Phila, 72, A.M, 77; M.D, Jefferson Med. Col, 83. Demonstrator path. and micros, Phila. Polyclinic, 83–85; chief, Med. Clinic, and lecturer special therapeut, *Jefferson Med. Col,* 85–89, clin. lecturer *med,* 89–02, senior asst. prof, 02–04, *prof, 04–* Prof. med. and therapeut, Phila. Polyclinic and Col. for Graduates, 87–02; physician, Jewish Hosp, 87–; ed. staff, 'Med. News,' 87–95; physician, Phila. Hosp, 89–; lecturer therapeut, Dartmouth, 90–92; ed. staff, 'Universal Annual Med. Sciences,' 90–94; 'Am. Jour. Med. Sciences,' 90–96; physician, Rush Hosp. for Consumptives, 93–; ed, 'Phila. Polyclinic,' 95–99; ed. staff, 'Am. Med,' 01–; physician, Jefferson Med. Col. Hosp, 02– F.A.A; Am. Physicians (recorder, 01–); Am. Med. Ass. (chairman, Sect. Therapeut, 03); Am. Acad. Med; hon. mem. Md. Med. and Chirurg. Faculty; fel. Phila. Col. Physicians (ed, 91–93); Phila. Co. Med. Soc. (pres, 98–99); Phila. Path. Soc; Wash. Acad. Physiological therapeutics, especially therapeutic properties of air modified chemically and physically; tuberculosis; therapeutic properties of animal extracts, especially adrenal.

Cohoe, Dr. B(enson) A(mbrose), University of Chicago, Chicago, Ills. *Anatomy.* Canboro, Ont, Dec. 10, 74. A.B, Toronto, 98, M.B, 01. Asst. biol, Toronto, 99–01; instr. *anat,* Cornell, 01–03; *assoc, Chicago, 03–* Ass. Anat.

Cohoe, Prof. Wallace P(atten), 110 Park Road, Toronto, Can. *Chemistry.* Norwich, Ont, Feb. 22, 75. A.B, McMaster, 96, A.M, 98; A.M, Harvard, 99. Demonstrator *chem,* Dental Dept, Toronto, 97–98; lecturer, *McMaster,* 01–02, *prof, 02–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Derivatives of aromatic hydrocarbons; compounds of silicon.—Action of platinum black on organic compounds.

Coit, Dr. James Milnor, St. Paul's School, Concord, N. H. *Physics, Chemistry.* Harrisburg, Pa, Jan. 31, 45. A.B, Hobart, 65, A.M, 69. Master nat. science, *St. Paul's Sch,* 77–04, *v. rector, 04–* Hon. Ph.D, Dartmouth, 81; Sc.D, Hobart, 05. F.A.A; Chem. Soc; Electrochem. Soc; Social Sci. Ass; hon. mem. N. H. Med. Soc. Relation of the X-rays to medical and surgical diagnosis; liquid air.

Coit, Prof. Judson B(oardman), 35 Renwick Road, Melrose Highlands, Mass. *Astronomy.* Central Square, N. Y, June 5, 49. A.B, Syracuse, 75, A.M, 78, Ph.D, 82. Prof. math, Dickinson Sem, 75–79; student asst, Ann Arbor Observatory, 79–80; teacher math, High Sch, Cleveland, O, 80–82; asst. prof. *math. and astron, Boston,* 82–84, *prof, 84–* M.A.A; Astron. and Astrophys. Soc. Orbit of η Cassiopœia.—Solar prominences.

Coker, R(obert) E(rvin), Johns Hopkins University, Baltimore, Md. *Zoology.* Society Hill, S. C, June 4, 76. South Carolina, 92–93; B.S, North Carolina, 96, M.S, 97; Hopkins, 01–02, 04– Asst. biol, North Carolina, 95–97; principal pub. schools, Goldsboro, N. C, 98–01; biologist, N. C. Geol. Surv, and custodian, U. S. Fisheries Lab, Beaufort, N. C, 02–04. Instr. biol, Summer Sch, North Carolina, 97, 99; temporary scientific asst, Bur. Fisheries, 00, 02, 05. Soc. Zool; Fisheries Soc. Zoology.—Development of Chelonia.

Coker, Dr. W(illiam) C(hambers), Chapel Hill, N. C. *Botany.* Hartsville, S.C, Oct. 24, 72. B.S, South Carolina, 94; Ph.D, Hopkins, 01; Bonn, 01–02. *Assoc. prof. bot, North Carolina, 02–* Asst. bot, Cold Spring Harbor, 00; chief of bot. staff, Bahama Exped. of Baltimore Geog. Soc, 03. F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; N. C. Acad. Fertilization and embryology of gymnosperms; lower fungi.—Fertilization and embryology in Cephalotaxus; tropical botany.

Colaw, J(ohn) M(arvin), Box 48, Monterey, Va. *Mathematics.* Monterey, March 16, 60. Roanoke, 78–79; A.B, Dickinson, 82; Virginia, 83–84; A.M, Dickinson, 92. *Instr. math, High Sch, Monterey, 92–* Assoc. ed, 'Am. Math. Monthly,' 84–02. Algebraic analysis.

Colburn, R(ichard) T(ownsend), Room C, 120 Broadway, New York, N. Y. *Sociology, Economics.* York, England, June 9, 35. Victoria, 56. Newspaper writer, 60–67; asst. in corporate finance, 67–90. F.A.A. (sec'y, I, 96, v. pres, 97); St. Louis Philos. Soc. (sec'y, 59). Logic and metaphysics; war; negro labor; railroad construction and finance; taxation and inheritance; psychology.

Cole, Prof. A(aron) H(odgman), 5715 Monroe Ave, Hyde Park, Chicago, Ills. *Biology, Bacteriology.* Greenwich, N. Y, Oct. 21, 56. A.B, Colgate, 84, A.M, 87; Hopkins, 89; Chicago, 93, 96, 98. Instr. nat. science, Peddie Inst, 84–88;

lecturer biol. and geol, Colgate, 88–92; *instr. biol, Chicago high schools, 92–; lecturer, Exten. Dept, Chicago, 95–* Instr. zool, Cold Spring Harbor, 93; Summer Sch, Chicago, 01. Nat. Educ. Ass; Nat. Geog. Soc; Ills. Micros. Soc. Projection of live plants and animals; anesthesia of lower animals; the dust problem in miscroscopy; Palaeaster eucharis (Hall).—Improvements in projection apparatus and methods.

Cole, Prof. Alfred D(odge), Ohio State University, Columbus, O. **Physics.* Rutland, Vt, Dec. 18, 61. A.B, Brown, 84; Hopkins, 84–85; A.M, Brown, 87; Summer Sch, Harvard, 87; Berlin, 94–95; Summer Sch, Cornell, 97; Chicago, summers, 98, 99, 00, 04. Instr. physics and chem, Denison, 85–87, acting prof, 87–88, *prof*, 88–01; *physics, Ohio State, 01–* Prof. physics, Chicago, summer, 04. F.A.A; Physical Soc. Electric oscillations in wires; electric waves in space.—Reflection of electric waves and absorption of same by semiconducting liquids.

Cole, Prof. F(rank) N(elson), Columbia University, New York, N. Y. **Mathematics.* Ashland, Mass, Sept. 20, 61. A.B, Harvard, 82, Ph.D, 86; Leipzig and Göttingen, 83–87. Lecturer *math*, Harvard, 85–87; instr, Michigan, 88–90, asst. prof, 90–95; *prof, Columbia, 95–* Math. Soc. (sec'y, 95, ed, 97–). Theory of groups; theory of numbers; mathematical organization.

Colegrove, Prof. F(rederick) W(elton), Bailey Building, Seattle, Wash. *Psychology.* Clinton, N. Y, Dec. 17, 55. A.B, Colgate, 82; Hamilton Theol. Sem, 82–84; Ph.D, Clark, 98; Leipzig and Heidelberg, 99. Principal, Collegiate Inst, Marion, N. Y, 84–89; prof. Latin, Colgate, 89–92; pres, Ottawa (Kas), 92–96; prof. philos, Washington (Seattle), 99–02. D.D, Rochester, 93. Philol. Ass; Kas. Hist. Soc. Memory.—Imagination.

Coleman, Prof. A(rthur) P(hilemon), 476 Huron St, Toronto, Can. *Geology.* Province of Quebec, April 4, 52. A.B, Victoria, 76; Ph.D, Breslau, 81. *Prof.* geol. and nat. hist, Victoria, 82–91; *geol*, Sch. of Practical Science, Toronto, 91–01, *Toronto, 01–* Geologist, Bur. of Mines of Ont, 93– Geol. Soc; Wash. Acad; fel. Can. Royal Soc; Can. Inst. (pres, 02). Archean and glacial geology; geography; petrography; economic geology; Sudbury nickel deposits; Iroquois beach; explorations on Brazeau River.

Coleman, Major J(ames) T(homas), Citadel, Charleston, S. C. *Physics.* Marion, S. C, Jan. 10, 66. B.S, S. C. Mil. Acad, 86; Chicago, summers, 97, 99. Asst. prof. chem. and physics, *S. C. Mil. Acad*, 88–96, *prof. physics, 96–* Mem. Jury on Sci. Instruments and Superior Jury, S. C. Interstate and W. I. Expos, 02. Gold medal, S. C. Interstate and W. I. Expos, 02. Mem. Int. Elec. Cong, St. Louis, 04. Physical Soc; Metrol. Soc; Nat. Educ. Ass; S. Educ. Ass; Elliott Soc. (v. pres.).

Collie, Prof. George L(ucius), 731 Park Ave, Beloit, Wis. *Geology.* Delavan, Wis, Aug. 11, 57. B.S, Beloit, 81; Ph.D, Harvard, *93*, Principal, High Sch, Delavan, 86–90; *prof. geol, Beloit, 93–* Mem. Committee of Ten, Conf. on Geog, Nat. Educ. Ass, 92; Committee on Physical Geog. for Col. Entrance, 99. Geol. Soc; Wis. Acad. Physiography.—Drumlin area of central Wisconsin.

Collier, Arthur J(ames), U. S. Geological Survey, Washington, D. C. *Geology.* Wheaton, Ills, Jan. 5, 66. A.B, Oregon, 88, A.M, 93; B.S, Harvard, 94. Prof. science, Portland Univ, Ore, 95–99; Willamette, 99–00; *asst. geologist, U. S. Geol. Surv, 01–* Field asst, U. S. Geol. Surv, 95–01. F.A.A; Geol. Soc; Wash. Geol. Soc. Geology of Oregon and Alaska.—Coal resources and geology of the Yukon River; reconnaissance of Seward Peninsula, Alaska; tin deposits of York Region, Alaska.

Collin, Prof. Alonzo, Mount Vernon, Ia. *Physics.* Hillsdale, N. Y, Aug. 14, 37. A.B, Wesleyan, 58, A.M, 62; Sc.D, Upper Iowa, 88. *Prof.* math. and nat. science, Cornell (Ia.), 60–68, nat. science, 68–81; physics and chem, Nebraska, 81–82; *Cornell (Ia.)*, 82–99, *physics, 99–* F.A.A.

Collingwood, F(rancis), Elizabeth, N. J. *Civil engineering.* Elmira, N. Y, Jan. 10, 34. C.E, Rensselaer, 55. City engineer, Elmira, 65–69; asst. engineer, First East River Bridge, N.Y, 69–83; repair of Allegheny Suspension Bridge, 83; *consulting and expert engineer, 83–; expert examiner, Munic. Civil Service, N. Y. City, 95–* Special lecturer foundations, N. Y. Univ; mem. Commission to Examine New Croton Aqueduct. Telford medal and Telford premium, British Inst. Civil Eng, 84. F.A.A; Civil Eng. (sec'y, 88–93); Min. Eng; cor. mem. Inst. Archit; Forestry Ass; fel. N. Y. Acad; N. Y. Micros. Soc; British Inst. Civil Eng.

Collins, A(rchie) Frederick, 11 Broadway, New York, N. Y. *Electrophysics.* South Bend, Ind, Jan. 8, 69. Chicago, 84–86. *Engineer, Collins Wireless Telephone Co, 02–* Assoc. Elec. Eng; N. Y. Elec. Soc. Electric oscillations and electric waves.—Wireless telephony.

Collins, Frank S(hipley), 97 Dexter St, Malden, Mass. **Botany.* Boston, Mass, Feb. 6, 48. High Sch. Fel. Am. Acad; New Eng. Bot. Club; Mass. Hort. Soc; Boston Soc. Nat. Hist. North American marine Algæ.

Collins, G(uy) N, Lanham, Md. *Botany.* Mertensia, N. Y, Aug. 9, 72. *Asst. botanist, U. S. Dept. Agr, 01–* M.A.A; Wash. Bot. Soc; Wash. Biol. Soc. Tropical cultures.—Tropical fruits.

Collins, Dr. Joseph, 37 W. 54th St, New York, N. Y. *Neurology, Medicine.* Brookfield, Conn, Sept. 22, 66. Michigan, 84–85; M.D, N. Y. Univ, 88. *Prof. nervous and mental diseases, N. Y. Post-Grad. Med. Sch, 97–* Physician, N. Y. City Hosp, 94–; consulting physician, Hosp. for Ruptured and Crippled, 00– Alvarenga prize, Phila. Col. of Physicians, 97. Neur. Ass. (pres, 02); Am. Physicians; Am. Med. Ass; Am. Acad. Med; N. Y. Neur. Soc. Sympathetic

nervous system; the location and function of the cells in the spinal cord.

Collins, Prof. Jos(eph) V(ictor), 217 Division St, Stevens Point, Wis. *Mathematics.* Wooster, O, Dec. 26, 58. Ph.B, Wooster, 79; Hopkins, 80–81, 82–83; Ph.D, Wooster, 86. Tutor *math,* Wooster, 79–80; *prof,* Hastings, 84–88; Miami, 88–93; *State Nor. Sch, Stevens Point, Wis, 94–* Math. Soc; Int. Ass. Prom. Quaternions. Vector analysis.

Collins, W(illia)m H(enry), Haverford College, Haverford, Pa. *Astronomy.* Peekskill, N. Y, Oct. 22, 59. B.S, Haverford, 81, A.M, 92. Director, Astron. Observatory, *Haverford,* 92–04, *prefect of College, 97–* Astron. and Astrophys. Soc. Double star measurements.

Colson, H(arold) R(oy), 15 Walker St, Cambridge, Mass. *Astronomy.* Batchellerville, N. Y, Feb. 21, 76. Harvard, 00–03. *Asst, Harvard Col. Observatory, 95–* Astron. and Astrophys. Soc; assoc. Ornith. Union. Astronomical photography.

Colton, Prof. B(uel) P(reston), Normal, Ills. *Biology.* Princeton, Ills, March 23, 52. A.B, A.M, Amherst, 74. Teacher nat. science, high schools, Princeton, Keokuk and Decatur, Ills; principal, Ottawa; *prof. nat. sciences, Ills. State Nor. Univ, 88–* Soc. Nat. Development of Arbacia punctulata.

Colvin, Prof. Stephen S(heldon), Champaign, Ills. *Philosophy, Psychology, Education.* Phœnix, R. I, March 29, 69. Ph.B, Brown, 91, A.M, 94; Ph.D, Strasburg, 97; Clark, 97–01. Instr. rhetoric, Brown, 92–95; English, English High Sch, Worcester, 97–01; asst. prof. psychol, Illinois, 01–03; philos, Brown, 03–04; *assoc. prof. psychol, Illinois, 04–* Psychol. Ass; West. Philos. Ass. The philosophical phases of psychology.—The temperature sense in relation to the temperature of the atmosphere; the interests of adolescence as shown in school compositions; color perception of animals.

Comey, Dr. Arthur M(essinger), 54 Concord Ave, Cambridge, Mass. **Chemistry.* Boston, Mass, Nov. 10, 61. A.B, Harvard, 82; Ph.D, Heidelberg, 85. Instr. chem. and director, Summer Sch. of Chem, Harvard, 85–89; prof, Tufts, 89–93; *anal. and consulting chemist, 93–* Chem. Soc; fel. Am. Acad; Soc. Chem. Indust; Chem. Gesell. Analytical and technical chemistry.

Compton, Prof. Alfred G(eorge), 40 W. 126th St, New York, N. Y. **Physics, Astronomy.* London, England, Feb. 1, 35. A.B, Col. City of N. Y, 53, A.M, 56. Tutor, *Col. City of N. Y,* 53–69, *prof.* applied math, 69–01, *physics, 01–* Civil Eng; Elec. Eng. Acoustics; optics.

Comstock, Dr. Charles W(orthington), 213 Boston Building, Denver, Colo. *Engineering, Mathematical physics.* Maroa, Ills, Feb. 10, 70. E.M, C.E, Colo. Sch. of Mines, 90; M.C.E, Cornell, 94, Ph.D, 98. Instr. civil eng, Cornell, 90–92; asst. to Geo. S. Morison, civil engineer, 92–93; instr. civil eng, Cornell, 93–97; prof. mining eng, Colo. Sch. of Mines, 97–02; *practising civil and mining engineer, 02–* F.A.A. (sec'y, D, 01); Civil Eng; Min. Eng; assoc. Elec. Eng; Colo. Sci. Soc. (sec'y, 98–00); Int. Ass. Prom. Quaternions; London Inst. Min. and Metal; N. of England Inst. Min. and Mech. Eng. Elasticity of solids, especially in its engineering applications.

Comstock, Gen. C(yrus) B(allou), U. S. A. (retired), 124 E. 27th St, New York, N. Y. *Engineering, Geodesy.* West Wrentham, Mass, Feb. 3, 31. Grad, U. S. Mil. Acad, 55. All grades from lieut. to brig. gen, U. S. A, retired, 95. Pres, Miss. River Commission; permanent mem. Board of Engineers for Fortifications. Nat. Acad; Civil Eng; Am. Acad. Engineering; geodesy.

Comstock, Elting H(oughtaling), Houghton, Mich. *Mathematics.* Milwaukee, Wis, June 26, 76. B.S, Wisconsin, 97; fellow, Cornell, 97–98; fellow, Chicago, 98–99; hon. fellow, Wisconsin, 99–00. Instr. math, Blaine High Sch, West Superior, Wis, 00–01; principal, High Sch, *Houghton, Mich,* 01–03, *supt. schools, 03–* Math. Soc; Wis. Acad. Harmonic curves of three frequencies.—Abelian functions.

Comstock, Prof. F(rank) M(ason), 85 Cornell St, Cleveland, O. *Natural history.* Leroy, N. Y, May 20, 55. A.B, C.E, Union, 76, fellow, 76–77, A.M, 79. Instr. science, LeRoy Acad. Inst, 78–79, principal, 79–91; *prof.* nat. hist. and English, *Case,* 91–02, *nat. hist. and descriptive geom, 02–* Asst, Adirondack Surv, 76. Hon. Ph.D, Union, 91. Forestry Ass; Nat. Geog. Soc; Ohio Acad; Rochester Acad; Can. Forestry Ass. Glacial geology.

Comstock, Prof. Geo(rge) C(ary), Observatory Hill, Madison, Wis. **Astronomy.* Madison, Feb. 12, 55. Ph.B, Michigan, 77; LL.B, Wisconsin, 83. Prof. math. and astron, Ohio State, 85–87; assoc. director, *Washburn Observatory,* 87–89, *director, 89–* Recorder and asst, U. S. Lake Surv, 74–77; asst. engineer, Improv. Mississippi River, 78–79. Nat. Acad; F.A.A. (sec'y, A, 89, v. pres, 94); Astron. and Astrophys. Soc; Soc. Astron. de Mex; Astron. Gesell; Soc. astron. de France. Astronomy of position.—Structure of the sidereal system.

Comstock, Prof. J(ohn) H(enry), 43 East Ave, Ithaca, N. Y. **Entomology.* Janesville, Wis, Feb. 24, 49. B.S, Cornell, 74. Instr. and *prof. entom, Cornell, 74–* Entomologist, U. S. Dept. Agr, 79–81; non.-res. prof. entom, Stanford. Soc. Nat; Entom. Soc; Soc. Zool; Cal. Acad; Soc. entom. de France. Coccidae; classification of Lepidoptera; skeleton of the head of insects.—Manual of North American Arachnida.

Comstock, Mrs. J. H. (Anna Botsford), 43 East Ave, Ithaca, N. Y. *Entomology, Nature study.* Otto, N. Y, Sept. 1, 54. B.S, Cornell, 78. Lecturer, Exten. Dept, Cornell, and asst. to Prof. J. H. Comstock in his work on scale insects. Bronze medal, Pan-Am. Expos, 01. Soc. Am. Wood Engravers. Entomological illustration and engraving.

Comstock, Dr. Theo(dore) B(ryant), 827 Beacon St, Los Angeles, Cal. *Geology, Mining engineering.* Cuyahoga Falls, O, July 27, 49. B. Agr, Pa. State, 68; B.S, Cornell, 70, Sc.D, 86. Instr. bot, Cornell, 68–70; prof. nat. science, Pelham Priory, N. Y, 71–72; nat. hist, Miss Nourse's Sch, Cincinnati, 73; acting prof. geol, Cornell, 75–79; gen. manager, Niagara Consol. M. and R. Co, Eureka, Colo, 79–84; mem. Morton and Comstock Elec. Co, Cleveland, 84–85; prof. mining eng. and physics, Illinois, 85–89; first asst. state geologist, Ark. Surv, 87; Texas Surv, 89–91; director, Ariz. Sch. of Mines, 91–95; pres, Arizona, 93–95; gen. manager and consulting engineer, Prescott Devel. Syndicate, Ltd, Glasgow, Scotland, 96–01; consulting engineer, Glasgow companies, 01–02; El Carmen Copper Co, Durango, Mex, 03–06; *consulting engineer, 04–* Connected with various surveys and expeditions, 70–77. F.A.A. (sec'y, E, 87); Geol. Soc; Min. Eng; Nat. Geog. Soc; Nat. Educ. Ass; S. Cal. Acad. (pres, 02–04); N. Y. Acad; Davenport Acad; Buffalo Nat. Hist. Soc; Cleveland Kirtland Soc. Nat. Hist; British Inst. Min. Eng. Geology of gold and silver of Arkansas; central mineral region of Texas, southwest Colorado, Arizona, etc.—Geology of California, Arizona and Mexico.

Comstock, William James, 43 Trumbull St, New Haven, Conn. *Chemistry.* Toledo, O, June 15, 60. Ph.B, Yale, 79; fellow, Hopkins, 81–82; Munich, 82–87. *Instr. org. chem, Sheffield Sci. Sch, Yale, 88–* Organic chemistry.

Conant, Prof. Levi L(eonard), 254 Salisbury St, Worcester, Mass. **Mathematics.* Littleton, Mass, March 3, 57. A.B, Dartmouth, 79, A.M, 87; Clark, 90–91; A.M, Ph.D, Syracuse, 93. Pub. sch. work, Minn. and S. Dak, 80–87; prof. math, Dakota Sch. of Mines, 87–90; asst. and assoc. prof. *math, Worcester,* 91–98, *prof, 98–* Ed, 'Jour. Worcester Polytech. Inst,' 97– F.A.A; Math. Soc. Primitive number work; theory of functions and of groups.—Theory of groups; history of mathematical notation.

Conard, Dr. Henry S(hoemaker), Lansdowne, Pa. *Biology.* Philadelphia, Pa, Sept. 12, 74. B.S, Haverford, 94, A.M, 95; Harrison fellow, Pennsylvania, 99–01, Ph.D, 01, senior fellow, 01–03. Teacher science, Westtown Boarding Sch, 95–99; instr. bot, Pennsylvania, 03–05; *Johnston scholar, Hopkins, 05–* Soc. Plant Morph. and Physiol; Pa. Bot. Soc. (cor. sec'y). Nymphaea; fasciations.—Dennstaedtia.

Condra, Prof. George E(vart), Lincoln, Nebr. *Geology, Geography.* Seymour, Ia, Feb. 2, 69. B.S, Nebraska, 97, A.M, 98, Ph.D, 01. Head, Science Dept, Lincoln Nor. Sch, 92–96; High Sch, Lincoln, 96–02; instr. geog. and econ. geol, *Nebraska,* 02–03, asst. prof. geol, 03–04, *assoc. prof. geog. and econ. geol, 04–* Asst, Nebr. Geol. Surv, 96–02; asst. state geologist, 02– M.A.A; Micros. Soc; Nat. Geog. Soc; Nebr. Acad. Coal measure Bryozoa of Nebraska; sand and gravel industries of Nebraska; geology and water resources of northeastern and southwestern Nebraska; geography of Nebraska. —Sand-working industries; railroad ballast, stratigraphy and soil areas of Nebraska.

Congdon, Prof. Ernest Arnold, 1510 Walnut St, Philadelphia, Pa. *Chemistry.* New York, N. Y, Aug. 9, 66. Ph.B, Columbia, 87; Berlin, 89. Chemist, Champlain Fibre Co, 87–89; instr. *chem,* Lehigh, 90–02; *prof, Drexel Inst, 92–* Assoc. ed, 'Sch. of Mines Quarterly.' Chem. Soc; N. Y. Acad; fel. London Chem. Soc.

Conklin, Prof. Edwin G(rant), University of Pennsylvania, Philadelphia, Pa. **Zoology.* Waldo, O, Nov. 24, 63. B.S, Ohio Wesleyan, 85, A.B, 86, A.M, 89; Ph.D, Hopkins, 91. *Prof.* biol, Ohio Wesleyan 91–94; *zool,* Northwestern, 94–96; *Pennsylvania, 96–* Instr, Woods Hole, 91–96; trustee, 95–; mem. Advisory Board, Wistar Inst, Pennsylvania; assoc. ed, 'Jour. of Morph,' 'Biol. Bul.' and 'Jour. Exp. Zool'; ed, 'Contributions from Zool. Lab, Univ. of Pa.' F.A.A; Soc. Nat; Soc. Zool. (pres, 99); Ass. Anat; Soc. Exp. Biol. and Med; Philos. Soc. (sec'y, 01–); Phila. Acad. (v. pres, 02–). Embryology of Gasteropoda, Brachiopoda and Tunicata; cellular history of development; cytology, karyokinesis and cytokinesis; cell size and body size; organization of the egg; cause of inverse symmetry; organ-forming substances; cytoplasmic organization and the nuclear inheritance theory.

Conn, Prof. H(erbert) W(illiam), 167 High St, Middletown, Conn. **Biology, Bacteriology.* Fitchburg, Mass, Jan. 10, 59. A.B, Boston, 81, A.M, 82; Ph.D, Hopkins, 84. Instr. *biol, Wesleyan,* 84–86, asst. prof, 86–88, *prof, 89–;* director, Cold Spring Harbor, 89–97; *bacteriologist, Storrs Exp. Sta, Conn. Agr. Col, 90–, lecturer dairy bacter, Col. Dept, 01–, Grad. Sch, 02–* Director, Zool. Class, Marthas Vineyard, 86; lecturer, Trinity (Conn.), 87–89. Soc. Nat; Soc. Bact. (sec'y, 99–01, pres, 02). Bacteriology of milk and milk products.—Bacteriology of market milk; relation of bacteria to butter and cheese making.

Connolly, Dr. John M(atthew), 183 Harvard St, Dorchester, Boston, Mass. *Physiological chemistry.* Windsor Locks, Conn, Feb. 25, 70. A.B, Col. of the Holy Cross, 90, A.M, 92; M.D, Harvard, 00. Principal, Acad, Cohoes, N. Y, 90–91; High Sch, Blackstone, Mass, 92–93; instr. math, High Sch, Waterbury, Conn, 93–96; *asst. physiol. and path. chem, Harvard Med. Sch, 99–* Am. Med. Ass; Mass. Med. Soc. Effect of muscular exercise on the kidneys.

Conoscenti, Dr. Euplio, 715 Charles St, West Hoboken, N. J. *Mathematics.* Petralia Sottana, Italy, Sept. 30, 74. Palermo Tech. Inst, 88–92; B.S, Palermo, 96, Math. D, 98. Librarian, Circolo Matematico di Palermo, 97–98, director, 98–00; *private instructor.* Reduction of the Abelian integrals.

Conrad, Abram H, 2011 Jackson Boulevard, Chicago, Ills. *Botany.* Crawfordsville, Ind, 50. Wabash, 74; A.M, Wooster, 97; Chicago, 98–99. Teacher *biol,* West. Nor. Col, 84–89;

prof, Parsons, 89–96; *head teacher, R. T. Crane High Sch, Chicago, 99–* Iowa Acad; Chicago Acad. Plant morphology and physiology.

Converse, Dr. Henry A(ugustus), 2017 N. Calvert St, Baltimore, Md. *Mathematics.* Louisville, Ky, June 3, 75. A.B, Hampden-Sidney, 93; Ph.D, Hopkins, 03. Instr. *math,* Shenandoah Val. Acad, 93–99; student asst, Hopkins, 02–03, *instr,* 03–04; *Baltimore Polytech, 04–* Math. Soc; Ass. Teachers Math. of Middle States and Md. Geometry by means of vector analysis in the plane.—Sections of regular figures in n-dimensions in connection with the group theory; double parabola by means of vector analysis.

Cook, Prof. A(lbert) J(ohn), Pomona College, Claremont, Cal. *Biology, Entomology.* Owosso, Mich, Aug. 30, 42. B.S, Mich. Agr. Col, 62, M.S, 64. *Prof.* zool, Mich. Agr. Col, 66–93; *biol, Pomona, 94–* Conductor, Farmers' Institutes, Mich. and S. Cal; assoc. ed, 'Cal. Cultivator' and 'Fruit World'; lecturer. Nat. Bee Keepers' Ass; hon. mem. British Bee Keepers' Ass. Insects (especially bees); economic entomology.—Economic entomology in southern California.

Cook, Prof. A(lfred) N(ewton), Vermilion, S. Dak. *Chemistry.* Cornell, Ills, Feb. 22, 66. B.S, Knox, 90; Chicago, 95; Ph.D, Wooster, 96; Wisconsin, 98–00. Instr. science, Amity, 92–94; prof. chem. and physics, Upper Iowa, 94–98; asst. *chem,* Wisconsin, 98–00; *prof,* Morningside, 00–04; *South Dakota, 04–* Chem. Soc; Iowa Acad; Iowa Teachers' Ass. (v. pres, 03); Sioux City Acad; Chem. Gesell. Derivatives, preparation and properties of phenyl ether; calcium carbid as a dehydrating agent for alcohols; Menke's method of preparing hyponitrites; preparation, properties, etc, of aluminum phenolate.—Meta-tolyl ether and derivatives.

Cook, Dr. Cha(rle)s G(ilpin), 201 Gates Ave, Brooklyn, N. Y. *Chemistry.* Glenville, Md, Nov. 25, 66. B.S, Haverford, 92, A.M, 93; Ph.D, Hopkins, 98. Instr, Bridgewater Col, 93–94; principal, Aurora Acad, 94–95; *instr. chem, Boys' High Sch, Brooklyn, 99–* Chemist, Mathi, Inghram and Co, Baltimore, Md; lab. asst. chem, Haverford. Chem. Soc. Double halides of tin with the aliphatic amins.

Cook, Dr. Frederick A(lbert), 670 Bushwick Ave, Brooklyn, N. Y. *Medicine, Anthropology, Polar exploration.* Callicoon Depot, N. Y, June 10, 65. M.D, N. Y. Univ, 90. *Practising physician, 90–* Surgeon, Peary Arctic Exped, 91–92; Belgian Antarctic Exped, 97–99. Chevalier Order of Leopold; silver medal, Belgian Geog. Soc; gold medal, Royal Soc. Belgium; gold medal, Municipality of Brussels. Ethnol. Soc; Nat. Geog. Soc; Am. Geog. Soc; Explorers Club; Arctic Club; Phila. Geog. Soc; Brooklyn Med. Soc; Kings Co. Med. Soc. Anthropology; ethnology; polar exploration.—Ona Indians; Eskimo; polar research.

Cook, Dr. Mel(ville) T(hurston), Santiago de las Vegas, Cuba. *Plant pathology, Entomology.* Coffeen, Ills, Sept. 20, 69. De Pauw, 88–89, 91–93; A.B, Stanford, 94; A.M, De Pauw, 01; fellow, Ohio State, 01–02, Ph.D, 04. Principal, High Sch, Vandalia, Ills, 94–95; instr. biol, De Pauw, 95–97, prof, 97–04; *chief, Dept. Plant Path. and Econ. Entom, Agr. Exp. Sta, Santiago de las Vegas, Cuba, 04–* Lecturer human embryol, Central Col. Physicians and Surg, Indianapolis, 02–03; comp. anat, Med. Col. of Ind, 03–04. F.A.A; Ass. Econ. Entom; Ind. Acad. Plant embryology.—Insect galls.

Cook, O(rator) F(uller), Jr, Lanham, Md. **Biology.* Clyde, N. Y, May 28, 67. Ph.B, Syracuse, 90. Instr, Syracuse, 90–91; special agent in Liberia, N. Y. State Colonization Soc, 91–98; special agent, *U. S. Dept. Agr,* 98–01, *botanist for tropical agr, 01–* Asst. curator crypt. bot, U. S. Nat. Mus, custodian myriapods. F.A.A; Wash. Acad; Wash. Biol. Soc; Wash. Entom. Soc; Wash. Anthrop. Soc; Wash. Bot. Soc. Tropical agriculture; African colonization; taxonomy; evolution; Myriapoda; palms; Myxomycetes.—Tropical agriculture; origins and histories of tropical economic plants; kinetic evolution.

Cook, Dr. S(amuel) R(ichard), Allegheny College, Meadville, Pa. *Experimental physics.* Minden, Can, Feb. 14, 65. B.S, Michigan, 95, M.S, 97; fellow, Nebraska, 97–99, A.M, 98; fellow, Cornell, 04–05, Ph.D, 05. Principal, High Sch, Wahoo, Nebr, 99–01; instr. physics and chem, Washburn, 01–02; physics, Case, 02–04; *prof. physics and astron, Allegheny, 05–* Instr, Summer Sch, Nebraska, 99; Case, 04. F.A.A; Physical Soc; Nebr. Teachers of Physics and Chem. (pres, 99). Escape of gases from planetary atmosphere; flutings in sound waves; permanency of planetary atmosphere; theory of the electric rectifier.—Velocity of sound at the temperature of liquid air.

Cooley, Prof. LeRoy C(lark), 2 Reservoir Square, Poughkeepsie, N. Y. **Physics.* Point Peninsula, N. Y, Oct. 7, 33. A.B, Union, 58, A.M, 61, Ph.D, 70. *Prof.* math, Fairfield Sem, 58–60; nat. science, N. Y. State Nor. Col, 61–74; physics and chem, *Vassar, 74–95, physics, 95–* F.A.A; Physical Soc; Nat. Educ. Ass; N. Y. State Sci. Teachers Ass. (pres, 99). Electricity applied to registering vibrations; mechanical action of radiation; motion of light bodies in air and vacua; etc.

Cooley, Prof. M(ortimer) E(lwyn), 314 N. Ingalls St, Ann Arbor, Mich. *Mechanical engineering.* Canandaigua, N. Y, March 28, 55. Grad, U. S. Naval Acad, 78. Asst. engineer, U. S. N, 80–85; *prof. mech. eng, Michigan, 81–, dean, Eng. Dept, 04–* Chief engineer, U. S. N, 98; mem. Jury of Awards, State Educ. and Marine Engineer Committees, Columbian Expos, 93; P.A. engineer, M.S.N.B, 95–; mem. Jury of Awards, Pan-Am. Expos, 01. Hon. M.E, Michigan, 84. F.A.A. (v. pres, 98); Mech. Eng. (v. pres, 02); Naval Eng; Nat. Ass. Sta. Eng; Mich. Eng. Soc. (pres, 03); Detroit Eng. Soc. Carbon bisulphid engine; water friction of pumping engines; physical values of railroad, telephone,

telegraph, plank roads and river improvement properties in Michigan.—Tests of steam and hydraulic machinery.

Cooley, Prof. R(obert) A(llen), 810 S. Central Ave, Bozeman, Mont. *Entomology.* Deerfield, Mass, June 27, 73. B.S, Mass. Agr. Col, 95; B.S, Boston, 95. Asst. entomologist, Mass. Agr. Exp. Sta, 95–99; *zoologist and entomologist, Mont. Col. Agr. and Exp. Sta, 99–; state entomologist, Mont, 03–* F.A.A; Ass. Econ. Entom. Coccidae.

Coolidge, Dr. J(ulian) L(owell), Cambridge, Mass. **Mathematics.* Brookline, Mass, Sept. 28, 73. A.B, Harvard, 95; B.S, Oxford, 97; Ph.D, Bonn, 04. Teacher *math,* Groton Sch, Mass, 97–99; *instr, Harvard, 99–* Math. Soc; Oxford Math. Soc. Modern geometry.

Coolidge, Prof. William D(avid), Research Laboratory, General Electric Company, Schenectady, N. Y. *Physical chemistry.* Hudson, Mass, Oct. 23, 73. B.S, Mass. Inst. Tech, 96; Ph.D, Leipzig, 99. Asst. physics, Mass. Inst. Tech, 97; Leipzig, 99; instr. physical chem, Mass. Inst. Tech, 01–03, asst. prof. physico-chem. research, 04–05; *research physico-chemist, Gen. Elec. Co, 05–* Chem. Soc. Measurement of the dielectric constant of liquids.—Conductivity of aqueous solutions carried through the critical temperature (up to 380° C.).

Coony, Rev. J(ohn) P(atrick), S. J, St. Louis University, St. Louis, Mo. *Chemistry, Mathematics.* Edina, Mo, July 22, 62. St. Mary's Col, Kas, 84; St. Louis, 87–93; Woodstock (Md.), 97–99; St. Louis, 99–01; Ph.D, Hopkins, 03; St. Louis, 03–04. Asst. math, St. Louis, 93–97; prof. chem, Marquette Col, Wis, 04. Comparison of electrolytically formed semipermeable membranes regarding activity, permanence, and reliability for osmotic pressure measurements.

Cooper, Dr. H(ermon) C(harles), Syracuse University, Syracuse, N. Y. *Physical chemistry.* Glen Ellyn, Ills, Nov. 22, 75. Ph.B, Beloit, 96, A.M, 99; Ph.D, Heidelberg, 99. Instr. *chem,* High Sch, Lincoln, Nebr, 00–01; Syracuse, 01–03; research assoc, Mass. Inst. Tech, 03–04; *asst. prof, Syracuse, 04–* M.A.A; Chem. Soc. History of chemistry; racemic compounds; electric conductivity of aqueous solutions at high temperatures.

Copeland, Dr. E(dwin) B(ingham), Government Laboratories, Manila, P. I. **Bionomics, Botany.* Monroe, Wis, Sept. 30, 73. Wisconsin, 91–94; A.B, Stanford, 95; Leipzig, 95–96; Ph.D, Halle, 96; Wisconsin, 96–97, 98; Chicago, 01–02. Asst. prof. bot, Indiana, 97–98; State Nor. Sch, Chico, Cal, 99; West Virginia, 99–00, prof, 00–01; instr, Stanford, 01–03; *botanist, Philippine Government, 03–* Prof. crypt. bot, Cold Spring Harbor, 01. F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; Bot. Cent. States; Wis. Acad. Osmotic pressure in plants; mineral food; transpiration; chemical stimulation; mechanism of stomata; geotropism; variation; local distribution of timber; montane ecology.—Growth and transpiration of cocos; comparative ecology of ferns.

Copeland, W(illia)m R(ogers), 1904 Green St, Philadelphia, Pa. *Biology, Chemistry.* Castleton, Vt, Oct. 23, 68. A.B, Harvard, 92; Mass. Inst. Tech, 93. Asst. bacteriologist and chief, Bacter. Exp. Sta, Mass. State Board of Health, 93–97; bacteriologist, Filtration Commission of Pittsburg, 97–99; Bur. of Water-supply, Pittsburg, 99–00; *chief bacteriologist, Bur. of Water-supply, Phila, 01–* Soc. Bact; Pub. Health Ass; Civil Eng. Bacteriology and micro-organisms in drinking waters; purification of water-supplies.

Coplin, Dr. W(illiam) M. L(ate), 1529 S. Broad St, Philadelphia, Pa. *Pathology, Bacteriology.* Clarksburg, W. Va, Nov. 1, 64. M.D, Jefferson Med. Col, 86. Interne, Jefferson Med. Col. Hosp, 86–97; asst. demonstrator morbid anat, *Jefferson Med. Col,* 87–89, demonstrator, 89–94, *prof. path. and bacter, 96–* Adj. prof. path, Phila. Polyclinic, 89–92; A.A. surgeon, U. S. Marine Hosp. Service, 90–93; lecturer hygiene, Jefferson Med. Col, 92–94; pathologist, Phila. Hosp, 92–95; bacteriologist, Pa. State Board of Health, and surgeon, St. Mary's Hosp, 93–95; prof. path. and bacter, Vanderbilt, 95–96; pathologist, Jefferson Med. Col. Hosp; Phila. (Blockley) Hosp; Friends' Asylum for Insane, Frankford. F.A.A; Ass. Path. and Bact; Am. Med. Ass; Pub. Health Ass; Pa. Med. Soc; Phila. Co. Med. Soc; Phila. Path. Soc; fel. Phila. Col. Physicians. Pathology; bacteriology.

Coquillett, D(aniel) W(illiam), The Woodley, Washington, D. C. *Entomology.* Near Woodstock, Ills, Jan. 23, 56. Pub. schools. Asst. state entomologist, Ills, 81; field agent, *Div. Entom, U. S. Dept. Agr,* 85–86, 87–93, asst. entomologist, 93–02, *first asst. entomologist, 02–* Hon. custodian Diptera, U. S. Nat. Mus, 96– F.A.A; Wash. Acad; Wash. Entom. Soc. (pres, 03–04). Economic entomology; natural history of insects; taxonomy of Diptera.—Taxonomy of Diptera.

Corbett, Prof. L(ee) C(leveland), Takoma Park, Washington, D. C. *Horticulture.* Watkins, N. Y, Oct. 21, 67. B.S, Cornell, 90, M.S, 96. Asst. horticulturist, Cornell, 91–93; prof. hort. and forestry, S. Dak. Agr. Col, 93–95; West Virginia, 95–01; *horticulturist, U. S. Dept. Agr, 01–* Silver medal, Paris Expos, 01. F.A.A; Pomol. Soc; Soc. Hort. Sci; Soc. Prom. Agr. Sci; Wash. Bot. Soc. Propagation of plants by cuttings; the effect of incandescent gaslight on plants.—Comparative rate of transpiration of leaves under varying conditions.

Cornman, Dr. Oliver P(erry), 2252 N. 20th St, Philadelphia, Pa. *Pedagogy, Psychology.* Philadelphia, Aug. 26, 66. A.B, Central High Sch, Phila, 84, A.M, 89; Pennsylvania, 94–99, Ph.D, 99. *Supervising principal, Northwest Sch, Phila, 98–;* lecturer child psychol, Pennsylvania, 98–04. M.A.A. Spelling in elementary schools.

Cornwall, Prof. H(enry) B(edinger), 51 Nassau St, Princeton, N. J. **Chemistry, Mineralogy.* Southport, Conn, July 29, 44. A.B, Columbia, 64, A.M, E.M, 67; Royal Mining Acad, Freiberg, 66–68; Ph.D, Columbia, 88. Asst. chem, Columbia, 64–66, 68–69, metal. and miner, 69–70; supt, Geral Silver Mining Co, Batopilas, Chihuahua, Mex, 70–71; asst. metal. and miner, Columbia, 71–73; *prof. applied chem. and miner, Princeton, 73–* Supt, Continental Zinc and Lead Co, N. Y, 64. Chemical analytical methods.—Petrography.

Corson, Dr. E(ugene) R(ollin), 11 Jones St, E, Savannah, Ga. *Medicine, Natural science.* Washington, D. C, July 20, 55. B.S, Cornell, 75; M.D, Hahnemann Med. Col, Phila, 77, and Southern Med. Col, Atlanta, Ga, 94. *On visiting staff, Savannah Hosp, 97–* Ass. Anat; Electro-Therapeut. Ass; Ga. Med. Ass; Ga. Med. Soc. X-ray; anatomy; surgical pathology.—Surgical pathology; the peritoneum and the lymphatics and their relations to carcinoma; oxygen gas in the peritoneal cavity and its influences upon carcinoma and tuberculosis in man and cattle.

Cory, Prof. C(larence) L(inus), Berkeley, Cal. *Engineering.* Lafayette, Ind, Sept. 4, 72. B.M.E, Purdue, 89; M.M.E, Cornell, 91. Asst. elec. eng, Purdue, 89–90; prof, Highland Park, 91–92; asst. prof, *California,* 92–98, assoc. prof, 98–01, *prof. elec. eng. and dean, Col. Mech, 01–* Consulting elec. and mech. engineer, San Francisco. Elec. Eng; British Inst. Elec. Eng. Long distance transmission of power with high voltage currents.

Cottrell, Dr. F(rederick) G(ardner), University of California, Berkeley, Cal. *Chemistry.* Oakland, Cal, Jan. 10, 77. B.S, California, 96, Le Conte fellow, 96–97; Berlin, 00; Ph.D, Leipzig, 02. Teacher chem, High Sch, Oakland, Cal, 97–00; *instr. physical chem, California, 02–* Chem. Soc. Physical chemistry.

Coulter, Dr. John G(aylord), Manila, P. I. *Botany.* Hanover, Ind, July 20, 76. Wabash, 89–90; Indiana, 91–92; A.B, Lake Forest, 95; fellow, Chicago, 97–99, Ph.D, 00. Instr. bot, Syracuse, 99–00; prof. biol, Emory, 01; *botanist, Educ. Dept, P. I, 02–* Ed, 'The Philippine Teacher,' 02– Carica; tropical insular ecology.

Coulter, Prof. John M(erle), University of Chicago, Chicago, Ills. **Botany.* Ningpo, China, Nov. 20, 51. A.B, Hanover, 70, A.M, 73; Ph.D, Indiana, 82. Botanist, Hayden Surv, 72–74; prof. nat. science, Hanover, 74–79; biol, Wabash, 79–91; pres. and prof. bot, Indiana, 91–93; pres, Lake Forest, 93–96; *head prof. bot, Chicago, 96–* Ed, 'Bot. Gazette', 75– F.A.A. (sec'y, F, 90, v. pres, 91, gen. sec'y, 01); Soc. Nat; Bot. Soc. (pres, 97–98); Soc. Plant Morph. and Physiol; Am. Acad; Bot. Cent. States; Wash. Acad. Taxonomic work with seed plants; special morphology of seed plants.—Special morphology of gymnosperms and angiosperms.

Coulter, Prof. S(amuel) M(onds), 3883 Juniata St, St. Louis, Mo. *Botany.* Hanover, Ind, July 30, 60. A.B, Hanover, 80; fellow, Chicago, 97–01; A.M, Hanover, 98; Ph.D, Washington (St. Louis), 04. Teacher, high schools, Ind. and Ky, 80–85; manager, telephone and elec. companies, 85–97; instr. *bot,* Chicago, 97–01; *Washington (St. Louis),* 01–03, *asst. prof, 03–* F.A.A; Bot. Cent. States; St. Louis Biol. Soc. Ecology of swamp areas.

Coulter, Prof. Stanley, Purdue University, Lafayette, Ind. **Biology, Botany.* Ningpo, China, June 2, 55. A.M, Hanover, 77, Ph.D, 89. *Prof. biol. and director, Biol. Lab, Purdue, 87–* F.A.A; Soc. Nat; Bot. Cent. States; Ind. Acad. Flora of Indiana; forest trees of Indiana; nature study.

Councilman, Dr. W(illiam) T(homas), 78 Bay State Road, Boston, Mass. **Pathology.* Baltimore Co, Md, Jan. 1, 54. St. John's (Md.), 68–71; M.D, Maryland, 78; Vienna, Leipzig and Hopkins, 80–86. Assoc. and assoc. prof. *path,* Hopkins, 86–91; *prof, Harvard, 91–* Hon. A.M, Harvard, 98; Hopkins, 02. Nat. Acad; Ass. Path. and Bact; Am. Physicians; Physiol. Soc; fel. Am. Acad. Anatomy; pathology.—Pathological anatomy; pathogenesis of smallpox.

Coville, Frederick V(ernon), 1836 California Ave, Washington, D. C. **Botany.* Preston, N. Y, March 23, 67. A.B, Cornell, 87. Instr. bot, Cornell, 87–88; asst. botanist, *U. S. Dept. Agr,* 88–93, *botanist, 93–* Hon. curator bot, U. S. Nat. Mus, 93–; asst, Ark. Geol. Surv, 87; botanist, Death Valley Exped, 90–91. F.A.A. (v. pres, 03); Bot. Soc; Nat. Geog. Soc; Wash. Acad; Wash. Biol. Soc. Economic and geographic botany; plants of the aborigines; control of grazing on the public lands; systematic botany.

Coville, Dr. Luzerne, 514 E. Buffalo St, Ithaca, N. Y. *Medicine.* Preston, N. Y, Aug. 16, 65. B.S, Cornell, 86; M.D, Columbia, 89. Lecturer anat, Med. Col, Cornell, 98–00, surg, 00–03. Special med. examiner, State Civil Service Commission. Ass. Anat; N. Y. State Med. Soc; Tompkins Co. Med. Soc. (pres, 97–99); Long Isl. Med. Soc. Anatomy; surgery.—Typhoid epidemics in Ithaca, 1898–1903.

Cowie, Dr. David Murray, Lawrence Building, Ann Arbor, Mich. *Medicine.* Moncton, N. B, Nov. 19, 72. Battle Creek, 89–92; M.D, Michigan, 96. *First asst. internal med, Michigan, 96–* Assoc. ed, 'The Physician and Surgeon', 02. Ass. Path. and Bact; Am. Med. Ass. The acid resisting group of bacteria; diseases of the stomach; fetal tuberculosis; gastric juice in the insane; fowl tuberculosis; the bacillus typhosus; estimation of peptic digestion by means of Mett's method.

Cowles, Alfred H(utchinson), 656 Prospect St, Cleveland, O. **Electrochemistry, Metallurgy, Mining engineering.* Cleveland, Dec. 8, 58. Ohio State, 75–77; Cornell, 77–82. Supt, Pecos

River Mining Co, 83–84; technical adviser, *Cowles Elec. Smelting and Aluminum Co*, 85–93, *pres, 94–* Pres, Pecos River Mining Co; sci. ed. and v. pres, 'Cleveland Leader'. Elliott Cresson and John Scott medals, Franklin Inst, 86; medal, Paris Expos, 89. F.A.A; fel. Elec. Eng; Min. Eng; Electrochem. Soc; Naval Inst; Franklin Inst; Cleveland Chem. Soc. Electrometallurgy at high temperatures; aluminum; calcium carbid.—Chemical reactions at high temperatures; properties of alloys of rare and common metals.

Cowles, Dr. Edward, McLean Hospital, Waverly, Mass. *Medicine, Mental diseases.* Ryegate, Vt, July 20, 37. A.B, Dartmouth, 59, A.M, 61, M.D, 62; M.D, Columbia, 63. Asst. surgeon, U. S. A, 63–72; res. physician and supt, Boston City Hosp. 72–79; med. supt, McLean Hosp, 79–03. Asst. physician, Retreat for Insane, Hartford, Conn, 63; prof. mental diseases, Dartmouth, 86; clin. instr, Harvard, 89; trustee, Clark, 90–; assoc. ed, 'Am. Jour. Insanity', 94–95. Fellow by courtesy, Hopkins, 87–88; LL.D, Dartmouth, 90. F.A.A; Soc. Nat; Psychol. Ass; Neur. Ass; Am. Acad. Med; Medico-Psychol. Ass. (pres, 95); hon. mem. Me. Med. Ass; for. assoc. Paris Soc. Med. Psychol. Construction and management of hospitals; nursing reform for the insane; neurasthenia; mental pathology.—The organic sensations in mental pathology; the relation of psychiatry to psychology, physiology and anatomical pathology.

Cowles, Dr. Henry C(handler), University of Chicago, Chicago, Ills. **Botany.* Kensington, Conn, Feb. 27, 69. A.B, Oberlin, 93; fellow, Chicago, 95–97, Ph.D, 98. Instr. nat. science, Gates, 94–95; asst. *bot, Chicago*, 97–01, assoc, 01–02, *instr, 02–* Field asst, U. S. Geol. Surv, 95; assoc. ed, 'Bot. Gazette', 98–; 'Jour. of Geog,' 02– M.A.A; Soc. Nat; Bot. Soc; Geog. Ass; Bot. Cent. States; Int. Ass. Bot. Ecological relations of dune vegetation; physiographic ecology of the Chicago region.—Physiographic ecology; comparative ecology of dune vegetation.

Cowles, Dr. R(heinart) P(arker), Johns Hopkins University, Baltimore, Md. *Zoology.* Washington, Ia, April 8, 72. A.B, Stanford, 99; Adam T. Bruce fellow, Hopkins, 02–04, Ph.D, 04. *Asst. biol, Hopkins, 04–* Biologist in charge, Gulf Biol. Sta, Cameron, La, summer, 04; exp. bacteriologist, Griffith and Turner Co, seedsmen, Baltimore. Soc. Zool. Life history of Phoronis architecta; animal behavior of Ocypoda arcenaria; rearing of Polygordius.—Nitrogen-collecting bacteria; animal behavior of earthworms.

Cox, Dr. Alvin Joseph, Stanford University, Cal. *Chemistry.* Lawrence, Kas, June 14, 75. A.B, Stanford, 01, A.M, 02; Leipzig, summer, 02; Breslau, 02–04, Ph.D, 04. Lab. asst, *Stanford*, 99–01, *instr.* anal. chem, 01–02, *chem, 04–* Chem. Soc. Chemistry.—Acid, neutral and basic chromates of the difficultly soluble metals.

Cox, C(harles) F(inney), 54 E. 67th St, New York, N. Y. *Biology.* Richmond Co, N. Y, Jan. 16, 46. Col. City of N. Y, 62–63; A.B, Oberlin, 69. Manager, *N. Y. Bot. Garden*, 91–04, *treas, 98–, sci. director, 04–* Hon. A.M, Oberlin, 89. F.A.A; Micros. Soc; fel. N. Y. Acad. (treas, 93–); N. Y. Micros. Soc. (pres, 88–89); Torrey Bot. Club; N. Y. Linnean Soc; fel. Royal Micros. Soc. Microscopical botany and zoology.

Cox, Prof. Henry J(oseph), 506 E. 53d St, Chicago, Ills. *Meteorology.* West Newton, Mass, April 5, 63. A.B, Harvard, 84. With *U. S. Weather Bur*, 84–99, *prof. meteorol, 99–* Hon. A.M, Norwich, 87. Nat. Geog. Soc; Chicago Acad; Chicago Geog. Soc. Storms on great lakes; weather types; Weather Bureau records in court; recent advances in meteorology.—Hot waves and areas of high barometer on South Atlantic coast.

Cox, Prof. John, 241 University St, Montreal, Can. *Physics.* London, England, Nov. 20, 51. A.B, Cambridge, 74, A.M, 77. Warden, Cavendish Col, Cambridge, 77–88; lecturer, Exten. Dept, Cambridge, 88–90; *Macdonald prof. physics, McGill, 90–* F.A.A; Physical Soc; fel. Can. Royal Soc. (pres, Sect. III, 01); British Ass. Velocity and properties of Röntgen rays.

Cox, Ulysses Orange, Indiana State Normal School, Terre Haute, Ind. *Biology.* Farmland, Ind, Sept. 29, 64. A.B, Indiana, 00, A.M, 02. *Head,* Dept. Biol, State Nor. Sch, Mankato, 91–05; *Dept. Zool. and Bot, Ind. State Nor. Sch, Terre Haute, 05–* Asst, U. S. Fish Commission, summers, 92–96; Minn. Nat. Hist. Surv, summers, 97– M.A.A; Soc. Nat; assoc. Ornith. Union; Nat. Geog. Soc; Minn. Acad; Ind. Acad. Fishes.—The fishes of Minnesota.

Crafts, Prof. J(ames) M(ason), 59 Marlborough St, Boston, Mass. **Chemistry.* Boston, March 8, 39. B.S, Harvard, 58; Freiberg, 59; Heidelberg, 60; Paris Sch. of Med, 61–65. Mine examiner, Mex, 66–67; prof. chem. and dean, Chem. Faculty, Cornell, 68–71; prof. chem, Mass. Inst. Tech, 71–80; chem. research, Paris, 74–88; Mass. Inst. Tech, 88–92, prof. org. chem, 92–97, pres, 97–00; *chem. research, 00–* Jecker prize, Paris Acad; Chevalier Légion d'honneur, 85; LL.D, Harvard, 98. Nat. Acad; F.A.A; Chem. Soc; Am. Acad; Wash. Acad; assoc. mem. British Ass; Royal Inst; British, French and German Chem. Societies. Chemistry; organic silicium compounds; chlorid of aluminous reaction; vapor densities; thermometry.—Catalytic reactions in concentrated solutions.

Cragin, Dr. Edwin B(radford), 10 W. 50th St, New York, N. Y. *Obstetrics, Gynecology.* Colchester, Conn, Oct. 23, 59. A.B, Yale, 82; M.D, Columbia, 86. *Prof.* obstet, *Columbia*, 99–03, *obstet. and gynec, 03–* Consulting gynecologist and obstetric surgeon to various hospitals; sec'y, Medical Faculty, Columbia, 95–99. Gynec. Soc; N. Y. Obstet. Soc; N. Y.

Co. Med. Soc; N. Y. Acad. Med; Greater N. Y. Med. Ass.

Cragin, Prof. F(rancis) W(hittemore), 1715 Wood Ave, Colorado Springs, Colo. *Geology, Zoology, Botany.* Greenfield, N. H, Sept. 4, 58. Brooklyn Polytech, 75–79; B.S, Harvard, 82; Ph.D, Hopkins, 99. Prof. nat. hist, Washburn, 82–91; geol, Colo. Col, 91–03; *pres. and gen. manager, Globe Explor, Mining and Milling Co, 04–* Originator and in charge, Kas. Biol. Surv, 83–91; geologist, Tex. Geol. Surv, 92–93; lecturer geol, Summer Sch, Colorado Springs, 94; co-editor, 'Am. Geologist,' 90–96. F.A.A; Geol. Soc; Nat. Geog. Soc; Kas. Acad. Lesser known parts of fauna and flora of Kansas; paleontology and stratigraphic geology.—Marine invertebrate paleontology of Texas Jurassic; pioneer history of the plains and the Rocky Mountains.

Craig, Prof. John, 3 East Ave, Ithaca, N. Y. *Horticulture, Agriculture.* Lakefield, Can, 64. B.S, Iowa State, 87; M.S.A, Cornell, 98. Asst. to director, Iowa Exp. Sta, 88, 89; horticulturist, Dominion Exp. Farms, Ottawa, Can, 90-97; prof. hort. and forestry, Iowa State, 98–00; in charge exten. teaching in agr, *Cornell,* 00–03, *prof. hort, 03–* Ed, Hort. Dept, 'Family Herald,' 95–02; supt, Iowa Hort. Soc. Exp. Sta, 98, 99; chairman, Sect. Hort. and Bot, Ass. Agr. Col. and Exp. Stations, 02; ed, 'Nat. Nurseryman.' M.A.A; Soc. Hort. Sci; Pomol. Soc; fel. Royal Hort. Soc. Pomology; agricultural education.—Agricultural teaching in the rural schools.

Craig, Dr. Joseph D(avis), 12 Ten Broeck St, Albany, N. Y. *Anatomy.* Albany, Oct. 5, 56. A.B, Union, 80, A.M, 83; M.D, Albany Med. Col, 84. Demonstrator *anat, Albany Med. Col,* 86–02, asst, 87–90, lecturer, 90–92, adj. prof, 92–02, *prof, 02–* Curator, Mus, Albany Med. Col, 88–; visiting physician, St. Vincent's Orphan Asylum, 90–; Albany Hosp, 94–; health officer, Albany, 00– Ass. Anat; N. Y. State Med. Soc; Albany Co. Med. Soc. (pres, 94). Anatomy.

Craighead, Dr. E(dwin) B(oone), Tulane University, New Orleans, La. *Education.* Ham's Prairie, Mo, March 2, 61. A.M, Central (Mo.); Vanderbilt; Paris. Prof. Greek, Wofford, 89–92; *pres,* Clemson, 92–96; Central (Mo.), 96–00; State Nor. Sch, Warrensburg, Mo, 00–05; *Tulane, 05–* LL.D, Missouri, 98. West. Philos. Ass. History of education; Greek philosophy.

Crampton, Dr. C(harles) A(lbert), Revenue Bureau, U. S. Treasury Department, Washington, D. C. **Chemistry.* Davenport, Ia, Feb. 18, 58. Iowa, 73–75; B.L, Ph.C, Michigan, 82; A.C, Purdue, 82; M.D, Columbian, 83. Asst. chemist, U. S. Dept. Agr, 83–90; chemist, *Internal Revenue Bur, U. S. Treas. Dept,* 90–93, *chief, Div. Chem, 93–* Mem. various govt. commissions. F.A.A; Chem. Soc. (pres, Wash. Branch, 90); Social Sci. Ass. Composition of plant tissues; composition of fats and oils; food analysis; fermentation and composition of alcoholic liquors.—Composition of glycerids, especially butter fat; effect of growth of microorganisms in butter fat.

Crampton, Dr. C(harles) Ward (Grinnell), 160 W. 119th St, New York, N. Y. *Physiology, Anthropology.* New York, May 26, 77. A.B, Col. City of N. Y, 96; M.D, Columbia, 00. Asst, Woods Hole, 98; Path. Dept, Columbia, 00–03; chairman, Dept. Physical Training, High Sch. of Commerce, N. Y, 00–05; *asst. director physical training, pub. schools, N. Y. City, 05–* M.A.A; Nat. Physical Educ. Ass; Soc. Research Physical Educ; Nat. Educ. Ass; N. Y. Physical Educ. Soc. (pres, 05). Splanchnic vasomotor control; vasomotor control as an index of disposable energy; pubescence.—Physical and mental features of pubescence.

Crampton, Prof. Henry E(dward), Columbia University, New York, N. Y. **Zoology, Experimental biology.* New York, Jan. 5, 75. Col. City of N. Y, 88–92; A.B, Columbia, 93, fellow, 96–97, Ph.D, 99. Asst. biol, Columbia, 93–95; instr. *zool,* Mass. Inst. Tech, 95–96; lecturer, *Columbia,* 97–99, tutor, 99–00, instr, *Barnard,* 00–01, adj. prof, 01–03, *prof, 04–* Instr. embryol, Woods Hole, 95–; in charge embryol, Biol. Lab, Cold Spring Harbor, 04–; assoc. staff, Sta. for Exp. Evolution, Carnegie Inst, Cold Spring Harbor, 04– F.A.A; Soc. Nat; Soc. Zool; Soc. Exp. Biol. and Med; fel. Ethnol. Soc; Soc. Educ. Research; fel. N. Y. Acad. (rec. sec'y.). Developmental mechanics; fertilization of the egg; variation and selection in Lepidoptera.—Embryology of gasteropods; fertilization of the egg in ascidians, gasteropods, etc; variation, selection and inheritance in Lepidoptera (Saturniidae); general experimental evolution.

Crandall, Prof. A(lbert) R(ogers), Alfred, N. Y. *Geology, Paleontology, Biology.* Little Genesee, N. Y, Sept. 16, 40. A.M, Ph.D, Milton; Mus. Comp. Zool, Harvard, 67–73. Instr. *geol,* Ky. Agr. and Mech. Col, 74–75, *prof,* 75–90; *Alfred, 96–* First lieut, Civil War; first asst, Ky. Geol. Surv, 73–76, 80–90. Geol. Soc. Kentucky geology.

Crane, Dr. W(alter) R(ichard), 1546 Massachusetts St, Lawrence, Kas. *Mining engineering.* Grafton, Mass, Feb. 5, 70. A.B, Kansas, 95, A.M, 96; Ph.D, Columbia, 01. *Asst. prof. mining, Kansas, 98–* Min. Eng; Kas. Acad. Ore concentrations; calorimetry of fuels; blasting.—Testing explosions; flow of gas.

Crary, Dr. Geo(rge) W(aldo), 771 Madison Ave, New York, N. Y. *Dermatology.* Brooklyn, N. Y, Jan. 3, 64. M.D, Columbia, 85. House surgeon, Bellevue Hosp, 87; asst. attending surgeon, Out-patient Dept, Roosevelt Hosp, 88–01, asst. to attending surgeon, 96–01; asst. consulting dermatologist, N. Y. Lying-in Hosp, 03–05; *consulting dermatologist, Gen. Mem. Hosp, 03–* Instr. physiol. chem, Post-Grad. Med. Sch. and Hosp, 88–89; asst. demonstrator anat, Columbia, 97–01; asst. attending surgeon, N. Y. Cancer Hosp; attending surgeon and clin. asst, Med. Col, Cornell. Greater N. Y. Med. Soc; N. Y. Acad. Med; Manhattan Dermat. Soc.

Myxedema and thyroid extract; thyroid extract in psoriasis.—Regional histology of the skin.

Crathorne, Arthur R(obert), 602 E. Clark St, Champaign, Ills. *Mathematics.* Scarborough, England, Oct. 26, 73. B.S, Illinois, 98; Chicago, summer, 02; Göttingen, 04– Instr. math, Maine, 98–00; Wisconsin, 00–04. Math. Soc.

Crawford, Prof. A(lexander) W(ellington), Beaver, Pa. *Philosophy, English literature.* Branchton, Ont, Jan. 15, 66. A.B, Toronto, 95, A.M, 98; Ph.D, Cornell, 02. Teacher English, Columbian Col, New Westminster, B.C, 97–98; asst. to ed, 'Philos. Rev,' 00–02; *prof.* philos. and psychol, Ursinus, 02–03; *English and philos. and dean, Beaver, 03–* Philos. Ass. Empiricism and metaphysics; the philosophy of F. H. Jacobi.—The sense of time; moral order in Shakespeare's plays.

Crawford, Prof. J(ohn) Forsyth, Grand Island, Nebr. *Mental science, Theology.* Damascus, Syria, Nov. 16, 71. Union, 91–93; A.B, Princeton, 95; Berlin, 96; A.M, Princeton, 97; McCormick Theol. Sem, Chicago, 97–00. Demonstrator exp. psychol, Princeton, 97; pastor, Beaver Dam, Wis, 00–04; *prof. psychol. and pedag, Grand Island, 04–* Soc. Nat; Psychol. Ass. The temperature sense.

Crawford, Prof. Morris B(arker), Middletown, Conn. **Physics.* Ossining, N. Y, Sept. 26, 52. A.B, Wesleyan, 74, A.M, 77. Tutor math, *Wesleyan,* 74–77, instr. *physics,* 80–81, assoc. prof, 81–84, *prof, 84–* F.A.A; Physical Soc.

Crawford, Dr. Russell Tracy, 2011 Bancroft Way, Berkeley, Cal. *Astronomy.* Davisville, Cal, March 26, 76. B.S, California, 97, fellow, Lick Observatory, 98–01, Ph.D, 01. Asst. astron, California, 97–98; computer, Watson Trustees, 01–02; examiner, U. S. Civil Service Commission, 02–03; *instr. practical astron, California, 03–* Astron. and Astrophys. Soc; Pacific Astron. Soc. Constant of refraction; comet orbits; perturbations of minor planets. —Refraction; perturbations of minor planets.

Crawley, Prof. Edwin S(chofield), 330 Springfield Ave, Chestnut Hill, Philadelphia, Pa. *Mathematics.* Philadelphia, July 31, 62. B.S, Pennsylvania, 82, Ph.D, 92. Instr. civil eng, *Pennsylvania,* 82–84, *math,* 84–89, asst. prof, 89–99, *Thomas A. Scott prof, 99–* F.A.A. (sec'y, A, 02); Math. Soc; Math. Verein. Mathematics.

Crawley, Howard, Wyncote, Pa. *Zoology.* Philadelphia, Pa, June 4, 69. B.S, Pennsylvania, 97; M.S, Harvard, 01. Asst. zool, Harvard, 00–01. M.A.A; Phila. Acad. The Sporozoa.—Classification and physiology of Gregarinida.

Crehore, Dr. Albert C(ushing), 48 Lincoln Terrace, Yonkers, N. Y. **Engineering.* Cleveland, O, June 8, 68. A.B, Yale, 90; Hopkins, 91; Ph.D, Cornell, 93. Instr. physics, Cornell, 93–94; asst. prof, Dartmouth, 94–98. M.A.A; Elec. Eng. Application of the sine wave to telegraphs as applied to submarine cables and land lines; the invention of a printing telegraph employing a standard typewriter without any alteration for transmitter and receiver.

Creighton, Prof. J(ames) E(dwin), The Circle, Ithaca, N. Y. **Philosophy.* Pictou, N. S, April 8, 61. A.B, Dalhousie, 87; Berlin, 91; Ph.D, Cornell, 92. Instr. philos, *Cornell,* 89–91, assoc. prof. modern philos, 92–95, *prof. logic and metaphysics, 95–* Ed, 'Philos. Rev', 02–; Am. ed, 'Kant-Studien,' 96– LL.D, Queen's (Can.), 03. Philos. Ass. (pres, 02); Psychol. Ass. The nature of judgment and the knowing processes of mind; metaphysics.

Creighton, Prof. W(illiam) H(enry) P(aul), U.S.N. (retired), 1438 Henry Clay Ave, New Orleans, La. *Mechanical engineering.* Cincinnati, O, June 29, 59. Cincinnati, 76–77; U. S. Naval Acad, 78–82. Asst. engineer, U. S. N, 84–92, retired, 92; prof. mech. eng, Purdue, 87–91; chief engineer, U. S. Coast Surv, 'Steamer Blake,' 91–92; *prof. mech. eng, Tulane, 95–* Inspector vessels and govt. material, Spanish-Am. War. Naval Eng; Eng. Educ; Franklin Inst.

Crew, Prof. Henry, 620 Library St, Evanston, Ills. **Physics.* Richmond, O, June 4, 59. A.B, Princeton, 82, fellow, 82–84; fellow, Hopkins, 84–87, Ph.D, 87. Asst. physics, Hopkins, 87–88; instr, Haverford, 88–91; astronomer, Lick Observatory, 91–92; *prof. physics, Northwestern, 92–* Assoc. ed, 'Astrophys. Jour'. Delegate of Am. Physical Soc, Cong. of Physicists, Paris, 00. F.A.A; Physical Soc; Astron. and Astrophys. Soc. Spectroscopy.—Arc and spark spectra of metals.

Crile, Dr. George, 169 Kensington St, Cleveland, O. *Medicine, Surgery.* Chili, O, Nov. 11, 64. A.B, Ohio North. Univ, 84; M.D, Wooster, 87, A.M, 88; Vienna, 93; London, 95; Paris, 97. Lecturer and demonstrator histol, Med. Dept, Wooster, 89–90, *prof.* physiol, 90–93, principles surg, 93–00; *clin. surg, Med. Col, Western Reserve, 00–* Surgeon, St. Alexis Hosp; assoc. surgeon, Lakeside Hosp. Cartwright prize, Columbia, 97, 03; Senn prize, Am. Med. Ass, 98; Alvarenga prize, Col. of Physicians, Phila, 01; hon. Ph.D, Hiram. F.A.A; Ass. Path. and Bact; Surg. Ass; Soc. Exp. Biol. and Med; Am. Med. Ass; Soc. Clin. Surg; Am. Geog. Soc; Int. Soc. Surg. Surgical shock; surgery of the respiration system; blood pressure in surgery.

Crocker, Prof. Francis B(acon), 14 W. 45th St, New York, N. Y. **Electrical engineering.* New York, July 4, 61. E.M, Columbia, 82, Ph.D, 95. Instr. *elec. eng, Columbia,* 89–92, adj. prof, 92–93, *prof, 93–* Int. Elec. Cong, Chicago, 93 (perm. sec'y). F.A.A; Physical Soc; Elec. Eng. (pres, 97–98); N. Y. Elec. Soc; British Inst. Elec. Eng. High potential direct current dynamos; unipolar dynamos; regulation of electric motors; primary and secondary batteries.—Electrochemistry; automatic regulation of alternating current systems.

Crockett, Prof. Cha(rle)s W(inthrop), Stowe Ave, Troy, N. Y. *Mathematics, Astronomy.* Macon, Ga, Oct. 6, 62. A.B, Mercer, 79; C.E, Rensse-

laer, 84. Asst. prof. *math. and astron, Rensselaer*, 84–93, *prof, 93–* Hon. A.M, Mercer, 86. F.A.A; Astron. and Astrophys. Soc. Mathematics.

Croes, J(ohn) James R(obertson), 68 Broad St, New York, N. Y. *Civil engineering.* Richmond, Va, Nov. 25, 34. A.B, St. James (Md.), 53, A.M, 56. Asst. engineer, Brooklyn Water Works, 57–60; Croton Water Works, 60–63; principal asst.' engineer, Washington Water Works, 63–65; resident engineer, Croton Storage Reservoir, 65–70; topog. engineer, N. Y. Park Dept, 70–78; chief engineer, Suburban Rapid Transit R. R, 80–91; consulting engineer, 78–05. Consulting engineer, N. Y. State Health Dept, 03–05. Norman medal, Civil Eng, 74. Civil Eng. (treas, 78–88, v. pres, 89, pres, 01); Am. Water Works Ass; Pub. Health Ass; New Eng. Water Works Ass; British Inst. Civil Eng. The relation of rainfall to run-off of streams; the use and waste of water in cities; valuation of water works and water power; sewage and sewage disposal.

Cronau, Rudolf, 2583 Bainbridge Ave, New York, N. Y. *Ethnology, History.* Solingen, Germany, Jan. 21, 55. High schools and Acad. of Art, Düsseldorf, Germany. Medal, Columbian Expos, 93. Fel Ethnol. Soc; Albrecht Dürer Verein, and several literary and art clubs. History of American culture and Americana in general; American ethnology.

Crook, Prof. A(lja) R(obinson), Northwestern University, Evanston, Ills. *Mineralogy, Geology.* Circleville, O, June 17, 64. A.B, Ohio Wesleyan, 87; Ph.D, Munich, 92. Supt. pub. schools, Mt. Carmel, O, 87–89; *prof.* nat. hist, Wheaton, 92–93; *miner. and econ. geol, Northwestern, 93–* Int. Geol. Conf, 99. F.A.A; Geol. Soc; Geol. Gesell. Cretaceous fossil fish; mineralogical and economic geology.—Mexican opals; the occurrence of various minerals.

Crosby, Prof. W(illiam) O(tis), Massachusetts Institute of Technology, Boston, Mass. **Geology.* Belpre, O, Jan. 14, 50. B.S, Mass. Inst. Tech, 76. Instr. *geol, Mass. Inst. Tech,* 78–83, asst. prof, 83–02, *assoc. prof, 02–* Asst. geol. and miner, Boston Soc. Nat. Hist, 76–; consulting geologist to various state and city commissions, 95– Walker prize, Boston Soc. Nat. Hist, twice; bronze medal, Paris Expos, 00. F.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Am. Acad; Boston Soc. Nat. Hist. Chemical, structural, glacial and economic geology; ore deposits; geology of the Boston Basin, of Alaska and of the Rocky Mountains.

Cross, Prof. Charles Robert, 100 Upland Road, Brookline, Mass. **Experimental physics.* Troy, N. Y, March 29, 48. B.S, Mass. Inst. Tech, 70. Prof. *physics, Mass. Inst. Tech,* 75–78, *Thayer prof, 78–, director, Rogers Lab, 85–* Chairman, Sect. B, Elec. Cong, Columbian Expos, 93. F.A.A; Physical Soc; Astron. and Astrophys. Soc; Elec. Eng; Am. Acad. (chairman, Rumford Committee, 04); Appalachian Mt. Club (pres, 80); British Ass. Telephony.

Cross, Dr. (Charles) Whitman, 2138 Bancroft Place, Washington, D. C. **Geology.* Amherst, Mass, Sept. 1, 54. B.S, Amherst, 75, grad. student, 76; Göttingen, 77; Ph.D, Liepzig, 80. Asst. geologist, *U. S. Geol. Surv,* 80–88, *geologist, 88–, chief, Sect. Petrol, 03–* Geol. Soc; Wash. Acad; Wash. Geol. Soc. (pres, 99–00); Colo. Sci. Soc. Geology of various districts in Colorado; geology, petrography and mineralogy. —Geological surveys in Colorado; systematic petrography.

Crowell, Dr. John Franklin, 2144 P St, N. W, Washington, D. C. *Economics.* York, Pa, Nov. 1, 57. A.B, Yale, 83; fellow, Columbia, 94–95, Ph.D, 98. Pres, Trinity (N. C.), 87–94; prof. econ. and sociol, Smith, 96–98; expert in charge internal commerce, Bur. of Statistics, U. S. Treas. Dept, 00–04. Lecturer, Columbia, 97; expert, Indust. Commission, 00–01. L.H.D, North Carolina, 91. F.A.A. (sec'y, I, 03); Econ. Ass; Acad. Polit. and Social Sci; Geog. Ass. Sociology; the sugar question in Europe and the tropics; distribution of farm products; internal commerce.—Internal commerce in the United States.

Crozier, Gen. William, U. S. A, War Department, Washington, D. C. *Engineering.* Carrolton, O, Feb. 19, 55. Grad, U. S. Mil. Acad, 76. Served in Fourth Artil, *U. S. A,* 76–81, appointed to *Ordnance Dept,* 81, *brig. gen. and chief, 01–* Instr. math, U. S. Mil. Acad, 79–84; on special duty in Europe, 88–89; inspector fortifications, 98; Int. Peace Conference, The Hague, 99; served in Philippine campaign, 00; Pekin Relief Exped. F.A.A; Am. Geog. Soc; Wash. Acad. Application of wire to construction of guns; strains of gun carriages; strains due to rifling of guns.

Crump, Col. Malcolm H(art), Room 4, McElroy Building, Bowling Green, Ky. *Engineering, Geology.* Culpeper Co, Va, Oct. 24, 49. Grad, Va. Mil. Inst, 73; Summer Sch. of Geol, Harvard, 75–77. Asst. and acting director, Ky. Geol. Surv, 75–90; *prof. nat. science, Ogden, 99–* Director, Ky. Dept. Mining and Forestry, Columbian Expos, 93; Ky. Commissioner, La. Purchase Expos, 04. M.A.A. Coal; iron; American asphalt.—Methods of using and applying Kentucky rock asphalt.

Culin, (Robert) Stewart, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y. **Anthropology.* Philadelphia, Pa, July 13, 58. Nazareth Hall, Pa. Director, Dept. Archeol, Pennsylvania, 92–99, *curator,* Sect. Am. and Gen. Ethnol, Free Mus. Science and Arts, 99–03; *ethnol, Brooklyn Inst, 03–* Sec'y, U. S. Commission, Columbian Hist. Expos, Madrid, 92–93. F.A.A. (sec'y, H, 75, v. pres, 02); Soc. Nat; Philos. Soc; Folk-lore Soc. (pres, 97); Numis. and Antiq. Soc. (rec. sec'y, 83–); fel. Ethnol. Soc; Brooklyn Inst; hon. mem. Soc. Cient. Ant. Alz; cor. mem. Madrid Royal Acad. Hist; cor. mem. Florence Soc. Ital. d'Antrop, Etnol. e Psicol. comp; Swedish Soc. Anthrop. and Geog.

Comparative study of games.—Games of North American Indians.

Cullen, Dr. Thomas Stephen, 3 W. Preston St, Baltimore, Md. *Surgery.* Bridgewater, Ont, Nov. 20, 68. M.B, Toronto, 90. House surgeon, Toronto Gen. Hosp, 90–91; demonstrator anat, Toronto, 91; asst. res. gynecologist, Hopkins Hosp, 92–96, res. gynecologist, 96–97, assoc. prof. gynec, Hopkins, 00. Ass. Path. and Bact; fel. British Gynec. Soc; London Obstet. Soc; Leipzig Gesell. für Geburtshülfe; hon. mem. Soc. Ital. di Ostet. e Ginec. Cancer of the uterus; gynecological pathology.

Culver, Prof. G(arry) E(ugene), 1103 Main St, Stevens Point, Wis. *Geology.* Hebron, Wis, May 20, 49. Harvard, 86; Wisconsin, 88–91. *Prof.* nat. science, Dakota, 83–86, physical science, 86–87, geol. and miner, 88–91; *physical science, State Nor. Sch, Stevens Point, Wis, 94–* Instr. geol, Beloit, 92; lecturer, Exten. Dept, Wisconsin, 92–93. Hon. A.M, Denison, 88. M.A.A; Geol. Soc; Chem. Soc; Wis. Acad. Artesian well problems in the Dakotas; glacial topography.—Graphite deposits of central Wisconsin.

Cumings, Dr. Edgar R(oscoe), Indiana University, Bloomington, Ind. *Paleontology.* Madison, O, Feb. 20, 74. A.B, Union, 97; Cornell, 97–98; fellow, Yale, 01–03, Ph.D, 03. Instr. paleont, *Indiana,* 98–03, *asst. prof. geol, 03–* F.A.A; Geol. Soc. Paleontology; stratigraphic geology; Brachiopoda; Bryozoa; Ordovician faunas; morphogenesis of Platystrophia; paleontology of the Ordovician of Indiana.

Cummings, Prof. Clara E(aton), North Woodstock, N. H. *Botany.* Plymouth, N. H, July 13, 55. Wellesley, 76–79; Zürich, 86–87. Instr. *bot, Wellesley,* 79–87, assoc. prof, 87–03, *prof, 03–* Chief ed, 'Decades of N. A. Lichens,' and 'Lichens Boreali'; assoc. ed, 'Plant World.' F.A.A; Soc. Plant Morph. and Physiol. (v. pres, 04); Mycol. Soc; Torrey Bot. Club; Boston Soc. Nat. Hist; Boston Mycol. Club. Lichens.—Lichens of Alaska and Labrador.

Cummins, Dr. G(eorge) Wyckoff, Belvidere, N. J. *Physiological chemistry.* Vienna, N. J, March 2, 65. Ph.B, Yale, 84, Ph.D, 87; M.D, Columbia, 90. Asst, Lab. Physiol. Chem, Yale, 84–87, instr. math, Sheffield Sci. Sch, Yale, 87–88; *practising physician, 90–* M.A.A; Am. Med. Ass; N. J. Med. Ass. Physiological chemistry, chiefly in relation to digestion; annealing of copper.

Cunningham, Dr. R(ichard) H(oope), 201 W. 54th St, New York, N. Y. **Physiology, Neurology.* Richmond, Va, July 1, 65. Virginia, 83–85; M.D, Med. Col. of Va, 86, and Columbia, 88; Heidelberg, 90–91; Univ. Col, London, 91–93. Lecturer nervous and mental diseases, Med. Col. of Va, 93–94; demonstrator physiol, Columbia, 95–98; clin. asst. neur, Vanderbilt Clinic, 95–02; *instr. electrophysiol, Columbia, 02–* Physiol. Soc; Neur. Soc; Soc. Exp. Biol. and Med; Elec. Eng; fel. N. Y. Acad; Va. Med. Soc; N. Y. Co. Med. Soc. Physiology; neurology; electricity.—Stimulation of sciatic nerve with strong electric currents.

Cunningham, Prof. S(usan) J, Swarthmore, Pa. *Mathematics, Astronomy.* Wilna, Md, March 23, 42. Vassar, 66–67; Harvard, summers, 74, 76; Princeton, summer, 81; Cambridge, England, summers, 77, 78, 79, 82, 87; Williams, summers, 83, 84. Instr. math, *Swarthmore,* 69–72, asst. prof, 72–74, *prof. math. and astron, 74–* Hon. Sc.D, Swarthmore, 88. F.A.A; Math. Soc; Pacific Astron. Soc; British Astron. Ass.

Curtin, Jeremiah, Bureau of American Ethnology, Washington, D. C. *Anthropology.* Milwaukee, Wis, Sept. 6, 40. A.B, Harvard, 63. Sec'y, U. S. Legation, St. Petersburg, 65–70, acting consul general, 65, 66; *asst. ethnologist, Bur. Ethnol, 83–91, 91–* Ethnology; mythology; philology; history.—The Mongols; ethnology of northern Europe; mythology and languages of primitive America.

Curtis, Dr. Carlton C(larence), Columbia University, New York, N. Y. *Botany.* Syracuse, N. Y, Aug. 24, 64. A.B, Syracuse, 89; A.M, Columbia, 94; Ph.D, Syracuse, 95; Cambridge, England, 96; Leipzig, 97. Principal, Fayetteville Union Sch, 84–86; instr. nat. science, Brooklyn Polytech, 90–92; *tutor bot, Columbia, 98–* F.A.A; Soc. Nat; Bot. Soc; Soc. Plant Morph. and Physiol. Turgor; transmission and tension of fluids in plants; transpiration.—Action of pure and colored light upon transpiration.

Curtis, George Carroll, 64 Crawford St, Boston, Mass. *Geology.* Abington, Mass, July 15, 72. B.S, Harvard, 96; Zürich, 01. Asst. geol, Harvard, 96–98; asst. geologist, U. S. Geol. Surv, 98–99. In charge of construction, State Model Metrop. Boston, 00; U. S. Senate Models, 01–02; geologist on Dixie Exped, 02. Gold medal, Paris, 00; La. Purchase Expos, 04. F.A.A; Nat. Geog. Soc; Boston Sci. Soc. Geographic sculpture; shore lines; volcanic topography.—Topographic sculpture; active glaciers; coral islands.

Curtis, Dr. H(eber) D(oust), Lick Observatory, Mt. Hamilton, Cal. *Astronomy.* Muskegon, Mich, June 27, 72. A.B, Michigan, 92, A.M, 93; fellow, Leander McCormick Observatory, 00–02; Ph.D, Virginia, 02. Instr. math, High Sch, Detroit, 93; prof. Greek and Latin, Napa, 94–96; math. and astron, Pacific, 97–00; asst, *Lick Observatory, California,* 02–04, *asst. astronomer, 04–* Voluntary aide, Lick Observatory, Eclipse Sta, Thomaston, Ga, 00; mem. U. S. Naval Observatory Eclipse Exped. to Sumatra, 01; in charge Lick Observatory Eclipse Sta, Cartwright, Labrador, 05. Definitive determination of the orbit of comet 1898 I. —Determination of faint stellar magnitudes; spectrography; spectroscopic binaries.

Curtis, Dr. Henry S(toddard), 217 W. 108th St, New York, N. Y. *Psychology, Pedagogy.* Olivet, Mich, Feb. 9, 70. A.B, Olivet, 94, and Yale, 95; Ph.D, Clark, 98. *Instr. English, High Sch, N. Y. City, 99–* Gen. director playgrounds,

New York, summers, 98, 99, 01. Activity of children.—Playground movements and conditions.

Curtis, Dr. John G(reen), 327 W. 58th St, New York, N. Y. **Physiology, History of medicine.* New York, Oct. 29, 44. A.B, Harvard, 66, A.M, 69; M.D, Columbia, 70. Asst. demonstrator and demonstrator anat, *Columbia*, 70–75, adj. lecturer and adj. prof. *physiol*, 75–83, *prof*, *83–* House surgeon, Bellevue Hosp, 70; attending surgeon, 76–81; sec'y, Med. Faculty, Columbia, 76–90. LL.D, Columbia, 04. Soc. Nat. Physiol. Soc; N. Y. State Med. Soc; N. Y. Co. Med. Soc; fel. N. Y. Acad. Physiology; the early history of physiology.

Curtis, Prof. Mattoon M(onroe), 43 Adelbert Ave, Cleveland, O. *Philosophy, Anthropology.* Westmoreland, N. Y, Oct. 19, 58. A.B, Hamilton, 80, Law Sch, 81; B.D, Union Theol. Sem, 83; Ph.D, Leipzig, 90. Pastor, Beckwith Mem. Presbyterian Church, Cleveland, O, 85–88; in Europe, 88–91; *prof. philos, Western Reserve, 91–* M.A.A; Philos. Ass; Psychol. Ass; Anthrop. Ass; Ethnol. Soc; Acad. Polit. and Social Sci. History of philosophy in America; Edwards and Kant.—Classification of the sciences.

Curtis, Dr. R(obert) W(illiam), University of Kansas, Lawrence, Kas. *Chemistry.* Bridgeport, Conn, July 4, 69. B.S, Trinity (Conn.), 96; Ph.D, Yale, 04. Asst. instr. *chem*, Yale, 03–04; *asst. prof, Kansas, 04–* Kas. Acad. Action of reducing agents upon vanadium pentoxid; determination of metals by rotating cathode.

Curtis, Dr. William E(leroy), 1801 Connecticut Ave, Washington, D. C. *History, Political economy, Diplomacy.* Akron, O, Nov. 5, 50. A.B, Western Reserve, 71. Envoy extraordinary to Republics of Cent. Am. and S. Am, 84; director, Bur. Am. Republics, 90; special envoy to Holy See, King of Spain and commissioner for Columbian Expos. to Madrid, 92; chief, Latin-Am. Dept. and Hist. Sect, Columbian Expos, 93; commissioner for Pan-Am. Expos. to S. Am, 99. Grand commander, Order of Isabella the Catholic, Spain; Litt.D, Western Reserve. Int. Am. Conf, 89–90 (pres.). F.A.A; Nat. Geog. Soc; Am. Hist. Ass; Int. Soc. Americanists. Early American history; commercial possibilities in Latin-America.

Curtis, Dr. W(interton) C(onway), University of Missouri, Columbia, Mo. **Zoology.* Richmond, Me, Nov. 4, 75. A.B, Williams, 97, A.M, 98; fellow, Hopkins, 00–01, Ph.D, 01. Instr. *zool, Missouri*, 01–04, *asst. prof, 04–* Instr. zool, Woods Hole, 99–03. F.A.A; Soc. Nat; Soc. Zool. Planaria; Cestoda.—Embryology of Unionidae.

Curtiss, A(llen) H(iram), Jacksonville, Fla. *Botany.* Central Square, N. Y, Feb. 9, 45. High Sch. *Collecting botanist*, U. S. Dept. Agr, 75; Tenth Census, 80; Jesup Collection, 81; Southern U. S, 77–01; *West Indies, 02–* Botany.—Plants of southern United States and the West Indies.

Curtiss, Prof. Charles F, Ames, Ia. *Agriculture.* Nora, Ills, Dec. 12, 63. B.S.A, Iowa State, 87, M.S.A, 93. Statistician, U. S. Dept. Agr, 88–93; prof. animal husbandry, Iowa State, and asst. director, Exp. Sta, 91–96, *dean agr, Iowa State, and director, Exp. Sta, 97–* Pres, Iowa Live Stock Breeders Ass; expert judge of live stock, Trans-Miss, Pan.-Am, La. Purchase and Lewis and Clark Expositions; mem. Exec. Committee, Int. Live Stock Expos.

Curtiss, Dr. Ralph H(amilton), Allegheny Observatory, Allegheny, Pa. *Astronomy, Astrophysics.* Derby, Conn, Feb. 8, 80. B.S, California, 01, fellow, Lick Observatory, 01–05, Ph.D, 04. Student asst. astron, California, 00–01; Carnegie asst, Lick Observatory, Jan.–May, 05; *asst. astronomer, Allegheny Observatory, 05–* Mem. Lick Observatory Eclipse Exped. to Sumatra, 01. Astron. and Astrophys. Soc. Spectroscopy of heavenly bodies; photography of comet forms.—Spectrographic construction; spectrography of variable stars.

Curtiss, Dr. Richard S(ydney), University of Illinois, Urbana, Ills. *Chemistry.* Stratford, Conn, Nov. 8, 64. Ph.B, Yale, 88; Munich, 90–91; Ph.D, Würzburg, 92; Paris, 92–93. Chemist, Conn. Agr. Exp. Sta, New Haven, 88–90; docent and instr. org. chem, Chicago, 93–97; *prof.* chem, Hobart, 97–01; Union, 01–04; *org. chem, Illinois, 04–* Research chemist, Conn. Exp. Sta, 93. F.A.A; Chem. Soc; Chem. Gesell. Organic chemistry.—Derivatives of certain substituted amino malonic esters.

Cushing, Dr. Harvey, 3 W. Franklin St, Baltimore, Md. **Medicine.* Cleveland, O, April 8, 69. A.B, Yale, 91; A.M, Harvard, 94, M.D, 95. Res. surgeon, Hopkins Hosp, 97–01; asst. *surg, Hopkins*, 97–99, assoc, 99–03, *prof, 03–* Physiol. Soc; Ass. Path. and Bact; Soc. Exp. Biol. and Med. Experimental surgery.

Cushing, Prof. H(enry) P(latt), Adelbert College, Cleveland, Ohio. *Geology.* Cleveland, Oct. 10, 60. Ph.B, Cornell, 82, M.S, 84; Columbia, 84–85; Munich, 91–92. Teacher science, Nor. Sch, Mankato, Minn, 85–91; instr. geol. and chem, *Western Reserve*, 92–93, assoc. prof. *geol*, 93–95, *prof, 95–* F.A.A; Geol. Soc. (librarian, 98–); Nat. Geog. Soc; Ohio Acad; N. Y. Acad. Geology of northern New York, especially pre-Cambrian; areal geology of northeastern Ohio.

Cushman, Dr. Allerton S(eward), 1751 N St, Washington, D. C. **Chemistry.* Rome, Italy, June 2, 67. B.S, Worcester, 88; Freiburg and Heidelberg, 89–90; A.M, Harvard, 97, John Harvard fellow, 97–98, Ph.D, 98. Instr. chem, Washington (St. Louis), 92–96; asst, Harvard, 98; asst. prof, Bryn Mawr, 99–00; *chemist, Div. of Tests, Bur. Chem, U. S. Dept. Agr, 01–* F.A.A; Chem. Soc; Ceramic Soc; Wash. Acad; St. Louis Acad. Revision of atomic weight of nickel; road materials, clays, cements, etc.—Cementing power of rocks; plasticity of clays; relation of 'water of combination' to physical properties of rock dust, clays, etc; colloid theory of plasticity.

Cushny, Dr. Arthur R(obertson), University College, London, England. * *Pharmacology, Therapeutics.* Fochabers, Scotland, March 6, 66. A.M, Aberdeen, 86, M.B, C.M, 89, M.D, 92. Asst, Pharmacol. Inst, Strasburg, 92–93; *prof.* mat. med. and therapeut, Michigan, 93–05; *pharmacol. and mat. med, Univ. Col, London, 05–* Assoc. ed, 'Jour. of Exp. Med,' and 'Archives Int. de Pharmacodynam. et Therapeut.' F.A.A; Physiol. Soc; Am. Physicians; Soc. Exp. Biol. and Med; assoc. Am. Med. Ass. Pharmacological action of digitalis series; action of drugs on mammalian heart; diuresis; action of various alkaloids; saline diuresis; contrast of atropin and hyoscyamin; action of thujon.

Cutler, Prof. Anna A(lice), Smith College, Northampton, Mass. *Philosophy.* New Haven, Conn, Jan. 24, 64. A.B, Smith, 85, A.M, 89; Ph.D, Yale, 96. In charge, Dept. Philos, Rockford, 92–93; instr. logic, *Smith,* 93–95, English, 97–99, *philos,* 99–02, assoc. prof, 02–05, *prof, 05–* Philos. Ass. The critical philosophy of Kant; the influence of esthetical considerations upon Kant's 'theory of knowledge.'—Esthetics; ethics.

Cutler, Dr. Elbridge G(erry), 214 Beacon St, Boston, Mass. *Medicine.* Farmington, Me, Sept. 7, 46. A.B, Harvard, 68, M.D, 72. Asst. path. anat, *Harvard,* 78–82, clin. instr. auscultation, 84–88, *instr. theory and practise med, 88–* Visiting physician, Mass. Gen. Hosp. Am. Physicians; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci; Boston Soc. Med. Improv. The urine; contagious and infectious diseases.—Infectious diseases; gastric ulcer in children.

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Dabney, Pres. Charles W(illiam), University of Cincinnati, Cincinnati, O. **Education, Economics, Chemistry.* Hampden-Sidney, Va, June 19, 55. A.B, Hampden-Sidney, 73; Virginia, 77; Ph.D, Göttingen, 80. Prof. chem, Emory and Henry, 77–78; state chemist and director, N. C. Exp. Sta, 80–87; prof. agr. and director, Exp. Sta, Tennessee, 87–90, *pres,* Tennessee, 87–04; *Cincinnati, 04–* Asst. Sec'y of Agr, 94–97; special agent, scientific investigation, U. S. Dept. Agr, 97; pres, Summer Sch. of the South; director, S. Educ. Board, 02; chief, Dept. Govt. and State Exhibit, New Orleans Expos, 84; chairman, Board of Govt. Exhibit, Atlanta Expos, 96; Tenn. Centennial Expos, 97; mem. Jury of Awards, Paris Expos, 00. LL.D, Yale and Hopkins, 01. F.A.A; Chem. Soc; Econ. Ass; Social Sci. Ass; Ohio Acad; Wash. Acad; Cincinnati Soc. Nat. Hist. Isomerism among benzol compounds; isopicraminic acid; phosphates; marls; agricultural resources of North Carolina; history of agricultural and technical education in the United States; the culture of cotton in America; scientific work of the government; national university; education and wealth; educational conditions of the south.—Conditions of southern public schools; industrial work for rural schools.

Dahlgren, Prof. Ulric, 7 Evelyn Place, Princeton, N. J. **Histology.* Brooklyn, N. Y, Dec. 27, 70. A.B, Princeton, 94, M.S, 96. Instr. biol, *Princeton, 95–99, asst. prof. histol, 99–* Instr. invert. zool, Woods Hole, 96–98, asst. director, 98– F.A.A; Soc. Nat; Soc. Zool. Giant ganglion cell apparatus of fishes; breathing valves of fishes.

Dains, Dr. F(rank) B(urnett), Topeka, Kas. *Chemistry.* Gouverneur, N. Y, Jan. 15, 69. Ph.B, Wesleyan, 90, M.S, 91; fellow, Chicago, 94–95, Ph.D, 98; Berlin and Freiburg, 01–02. Asst. *chem,* Wesleyan, 91–93; asst. prof, Kansas, 93–94; Northwestern, 95–02; *prof, Washburn, 02–* Chem. Soc; Chem. Gesell. Aldehydes; ethers; ureas; formamidins.—The interaction of formamidins with bodies containing methylene hydrogen; urea ethers.

Dale, T(homas) Nelson, 26 Elizabeth St, Pittsfield, Mass. *Geology, Botany.* New York, N. Y, Nov. 25, 45. Private schools and instruction. Prof. geol, zool. and bot, Drury, 77; geol, Vassar, 78; instr, Williams, 93–97, geol. and bot, 97–01; field asst, *U. S. Geol. Surv,* 85–89, asst. geologist, 90–91, *geologist, 92–* Hon. A.M, Williams, 96. Cor. Vienna Geol. Reichanstalt; Soc. géol. de France. Structural and areal geology of the Taconic region; secondary structures in stratified rock; causes of the Taconic landscape.—Maine granite.

Dales, Dr. Benton, Station A, Lincoln, Nebr. *Chemistry.* Lincoln, Dec. 11, 77. B.S, Nebraska, 97, A.M, 99; fellow, Cornell, 00–01, Ph.D, 01. Asst. *chem,* Nebraska, 97–99; Cornell, 01–03; *prof, Nebraska, 03–* Chem. Soc. Electrolysis of iron; rare earths (yttrium group).—Yttrium group.

Dall, Prof. W(illiam) H(ealey), Smithsonian Institution, Washington, D. C. **Mollusks, recent and fossil.* Boston, Mass, Aug. 21, 45. Under Agassiz, Mus. Comp. Zool, Harvard, 62–63. Chief, Scientific Corps, West. Union Tel. Exped. to Alaska, 65–68; *hon. curator, Div. Mollusks, U. S. Nat. Mus, 69–;* asst, U. S. Coast Surv, 70–85; *paleontologist, U. S. Geol. Surv, 85–* Prof. invert. paleont, Wagner Inst, Phila, 93–; hon. curator, Bishop Mus, Honolulu, 99. Wagner gold medal, 99; hon. A.M, Wesleyan, 88; Sc.D, Pennsylvania, 04. Nat. Acad; F.A.A. (sec'y, B, 77–79, v. pres, 82, 85); Soc. Nat; Philos. Soc; and other American and foreign societies. Geography of northwestern America and Alaska.—Recent and fossil mollusks and brachiopods; North American Tertiary and recent mollusk fauna, especially Pelecypoda.

Daly, Dr. Reginald Aldworth, 179 Gilmour St, Ottawa, Can. *Geology.* Napanee, Ont, May 19, 71. A.B, Victoria (Ont.), 91; A.M, Harvard, 93, Ph.D, 96; Heidelberg and Paris, 96–98. Instr. geol, Harvard, 95–96, physiog, 98–01; *geologist, Can. Int. Boundary Commission, 01–* Geog. Ass. Field geology; petrology; physical

geography of the land.—Geology along the 49th parallel.

Dana, Dr. Charles L(oomis), 53 W. 53d St, New York, N. Y. **Nervous and mental diseases, Medicine.* Woodstock, Vt, March 25, 52. A.B, Dartmouth, 72, A.M, 75; M.D, Columbia, 77. *Prof.* physiol, Woman's Med. Col, N. Y. Infirmary, 80–88; nervous diseases, Dartmouth, 84; nervous and mental diseases, Post-Grad. Med. Sch, 86–98; *nervous diseases, Med. Col, Cornell, 99–* Visiting physician, Bellevue Hosp; formerly ed, 'Jour. Comp. Med'; formerly asst. ed, 'Med. Record'; ed. board, 'Jour. Nervous and Mental Diseases.' LL.D, Dartmouth, 05. F.A.A; Am. Physicians; Psychol. Ass; Neur. Ass; Am. Acad. Med; Social Sci. Ass; N. Y. Acad. Med. (pres.). Neurology; psychiatry; physiology; psychology; archeology.—The applications of modern doctrines of pathology to neuropathology; pathology of paralysis agitans of the combined scleroses of douloureaux; cerebral localization of cutaneous sensations; alcoholism; alcoholic meningitis; degenerative diseases of the brain and cord.

Dana, Prof. E(dward) S(alisbury), 24 Hillhouse Ave, New Haven, Conn. **Mineralogy, Crystallography.* New Haven, Nov. 16, 49. A.B, Yale, 70; Heidelberg and Vienna, 72–74; A.M, Yale, 74, Ph.D, 76. Tutor physics, *Yale,* 74–79, asst. prof, 79–90, *prof. physics and curator miner, 90–* Ed, 'Am. Jour. of Science', 75– Nat. Acad; F.A.A; Physical Soc; Philos. Soc; Am. Acad; London and Edinburgh Geol. Societies; Cambridge Philos. Soc. Crystallography.

Dandeno, Prof. J(ames) B(rown), Agricultural College, Mich. *Botany.* Guelph, Ont, Feb. 2, 62. A.B, Queen's (Can.), 95; A.M, Harvard, 99, Ph.D, 04. Science master, High Sch, Newburgh, 88–96; principal, Williamstown, 96–98; teacher *bot,* St. Louis Nor. Sch, 01–02; *prof, Mich. Agr. Col, 02–* Mem. Co. Board of Examiners, Ont, 93–96; examiner nat. science, Educ. Dept, Ont, 92–96; asst. bot, Summer Sch, Harvard, and asst, Bot. Mus, 99–01. Absorption of water by leaves; effects of solutions upon leaves; normal solutions.—Chemical ecology; parachute effect of thistle down; seed dispersion in Ricinus; the relation of mass action and physical affinity to toxicity; colors as vital stimuli.

Danforth, Dr. I(saac) N(ewton), 905 W. Monroe St, Chicago, Ills. *Medicine.* Barnard, Vt, Nov. 5, 35. Pub. schools. Prof. path, Rush Med. Col, 75–81; Chicago Med. Col, 81–95; dean, Woman's Med. Sch, Northwestern, 81–99. Various hosp. appointments. Hon. A.M, Dartmouth, 81. M.A.A; Am. Physicians; Am. Med. Ass; Ills. Med. Soc; Chicago Med. Soc; etc. Renal diseases.—Therapeutics of renal diseases and their surgical treatment.

Daniel, Prof. John, Vanderbilt University, Nashville, Tenn. *Physics.* Perry Co, Ala, July 6, 63. A.B, Alabama, 84, A.M, 86; Hopkins, 86–88; Berlin, 92. Asst. prof. *physics,* Alabama, 84–86; asst, *Vanderbilt,* 88–89, instr, 89–90, adj. prof, 90–94, *prof, 94–* Mem. Jury of Awards, Tenn. Centennial Expos, 97. M.A.A. Voltameter polarization; X-rays, including the discovery of depilatory and burning effect.—Photometry.

Daniells, Prof. W(illiam) W(illard), 515 N. Carroll St, Madison, Wis. *Chemistry.* West Bloomfield, Mich, March 10, 40. B.S, Mich. Agr. Col, 64; Lawrence Sci. Sch, Harvard, 66–68; M.S, Mich. Agr. Col, 67; Halle and Berlin, 81. *Prof.* agr. and anal. chem, *Wisconsin,* 68–74, agr. and chem, 74–80, *chem, 80–* Chemist, Wis. Geol. Surv, 73–77; state chemist, Wis, 79–83; mem. Wis. Board of Health, 83–92. Hon. Sc.D, Mich. Agr. Col, 97. Chem. Soc; Wis. Acad.

Daniels, Prof. A(rchibald) L(amont), 34 N. Prospect St, Burlington, Vt. *Mathematics.* Hudson, Mich, July 19, 49. A.B, Michigan, 76; Göttingen, 76–80; Berlin, 80–82; fellow, Hopkins, 83–84; Sc.D, Princeton, 86. Instr. higher math, Princeton, 84–85; *prof. math, Vermont, 86–* Instr, Chicago Manual Training Sch. Function theory.

Daniels, Prof. Arthur H(ill), 913 W. Illinois St, Urbana, Ills. *Philosophy.* East Medway, Mass, Oct. 19, 65. A.B, Olivet, 87; B.D, Yale, 90; Ph.D, Clark, 93. Instr. *philos, Illinois,* 93–95, asst. prof, 96–99, *prof, 00–* Philos. Ass; Psychol. Ass. Regeneration; attention and memory.—An anthropological study of several theological conceptions; political ethics.

Darling, Dr. E(ugene) A(braham), 138 Brattle St, Cambridge, Mass. *Medicine.* Troy, N. Y, April 17, 68. A.B, Harvard, 90, A.M, M.D, 94; Edinburgh. Asst. bacter, Harvard Med. Sch, 94–98, *instr. hygiene, Harvard, 99–* Bacteriologist, Board of Health, Cambridge, Mass; visiting physician, Cambridge Hosp. Ass. Path. and Bact; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. Effects of training; medicine; hygiene; bacteriology.

Darrach, Dr. William, 852 Lexington Ave, New York, N. Y. *Anatomy.* Germantown, Pa, 76. A.B, Yale, 97; A.M, M.D, Columbia, 01. Asst. demonstrator *anat, Columbia,* 03–05, *demonstrator, 05–* Asst. surg, Vanderbilt Clinic, 03– Ass. Anat. Anatomy.

Darton, N(elson) H(oratio), U. S. Geological Survey, Washington, D. C. **Geology.* New York, N. Y, Dec. 17, 65. Pub. schools. *Geologist, U. S. Geol. Surv, 86–* F.A.A; Geol. Soc; Geog. Ass; Min. Eng; Nat. Geog. Soc; Wash. Acad; Wash. Geol. Soc; Geol. Gesell. Bibliography of North American geology; Appalachian geology; Newark rocks of New Jersey; artesian waters of Dakota and Nebraska.—Geology of Big Horn Mountains and Black Hills; underground waters of western United States; underground temperatures of the United States; geology of the Great Plains.

Davenport, Prof. C(harles) B(enedict), Station for Experimental Evolution, Cold Spring Harbor, N. Y. **Zoology, Experimental evolution.* Stamford, Conn, June 1, 66. B.S, Brooklyn

Polytech, 86; A.B, Harvard, 89, A.M, 90, Ph.D, 92. Asst. zool, Harvard, 88–91, instr, 91–99; asst. prof, Chicago, 99–01, assoc. prof, 01–04; *director, Lab. for Exp. Evolution, Cold Spring Harbor, 04–* Director, Biol. Lab, Cold Spring Harbor, 98–; co-editor, 'Am. Naturalist,' 'Biometrika,' 'Jour. Exp. Zool,' 98– F.A.A. (v. pres, 00); Soc. Nat; Soc. Zool; Soc. Exp. Biol. and Med; fel. Am. Acad; Chicago Acad; Boston Soc. Nat. Hist. Budding in Bryozoa; morphogenesis; variation; experimental breeding; reactions of animals.—Variation of Pecten; experimental pedigree breeding of animals.

Davenport, Mrs. C. B. (Gertrude Crotty), Cold Spring Harbor, N. Y. *Zoology.* Asequa, Colo, Feb. 28, 66. B.S, Kansas, 89; Radcliffe, 92–94. *Instr.* zool, Kansas, 89–92; *micros. methods, Biol. Lab, Cold Spring Harbor, 98–* Soc. Zool. Embryology of the turtle; variation in Sagartia; variation in starfish at Cold Spring Harbor.—Variation in organisms.

Davenport, Dr. F(rancis) H(enry), 419 Boylston St, Boston, Mass. *Gynecology.* Roxbury, Mass, March 27, 51. A.B, Williams, 70; M.D, Harvard, 74. Asst. gynec, Harvard Med. Sch, 81–89, instr, 89–95, asst. prof, 95–05. M.A.A; fel. Gynec. Soc; Mass. Med. Soc; Boston Obstet. Soc; Boston Soc. Med. Improv.

Davenport, George E(dward), 67 Fellsway W, Medford, Mass. **Botany.* Boston, Mass, Aug. 3, 33. Boston schools. Mem. Sch. Committee, Medford, 92– Silver medal, Mass. Hort. Soc, 77, Appleton gold medal, 87. Fel. Am. Acad; New Eng. Bot. Club; cor. mem. Torrey Bot. Club; Mass. Hort. Soc; Linnæan Fern Chapter (v. pres, 03). Ferns and allies; Ophioglossaceae; Filices Mexicanae.

Davidson, Dr. A(nstruther), 544 Wilcox Block, Los Angeles, Cal. *Botany, Entomology.* Caithness, Scotland, Feb. 19, 60. M.B, C.M, Glasgow, 81, M.D, 87. *Practising physician, 87–* Fel. S. Cal. Acad. (pres, 93–94, ed, 02); cor. mem. Phila. Entom. Soc. Field botany of southern California and Arizona; habits and parasites of bees and wasps.

Davidson, Prof. George, 2221 Washington St, San Francisco, Cal. *Geodesy, Geography, Astronomy.* Nottingham, England, May 9, 25. A.M, Central High Sch, Phila, 50. U. S. Coast and Geod. Surv, 45–95, in charge, Pacific Coast, 68–95; *hon. prof. geod. and astron, California, 70–* regent, 77–84, *prof. geog, 98–* Geog. reconnaissance, Alaska, 67–69; U. S. Mint expert, Phila. and San Francisco, 72, 85, 86; mem. U. S. Commission on Irrig. of Cal, 73–74, and of India, Egypt, Italy, etc, 75; U. S. Advisory Board Harbor Improv, San Francisco, 73–76; in charge, Transit of Venus Exped. to Japan, 74; New Mexico, 82; mem. Miss. River Commission, 88–90; consulting engineer, 95–98. Medal and diploma, French Govt, 78; hon. Ph.D, Santa Clara, 76; Sc.D, Pennsylvania, 89. U. S. special agent and delegate to Ninth Int. Geod. Convention, Paris, 89. Nat. Acad; F.A.A; hon. mem. Civil Eng; Philos. Soc; Am. Acad; Cal. Acad. (pres, 16 years); Pacific Geog. Soc. (pres, 81–); Wash. Acad; Phila. Acad; Royal Geog. Soc; Paris Acad; Inst. de France; Bur. des Longitudes de France; Swedish Soc. Anthrop. and Geog, and many others. Geodesy; astronomy; instruments of precision; engineering; geography; navigation.—Physiography, geography and history of explorations of Pacific coast and ocean.

Davies, Dr. A(rthur) E(rnest), 1948 N. High St, Columbus, O. *Philosophy, Psychology.* London, England, March 18, 67. Owens Col, Manchester, and Univ. Col, London, 84–88; B.D, Yale, 91, Ph.D, 98. *Instr. philos, Ohio State, 00–* M.A.A; Religious Educ. Ass; West. Philos. Ass. The concept of change; psychology of esthetic reaction to rectangular forms; an analysis of elementary psychic process.—Psychology of suggestion and of attention.

Davies, Dr. Henry H(ughes), Salisbury, Conn. *Philosophy.* London, England, July 11, 64. Cheshunt Col, England, 82–86; B.D, Yale, 88, Ph.D, 97. Instr. philos, Yale, 96–04. Philos. Ass; Psychol. Ass. Psychology; medieval philosophy; esthetics; pedagogy.—Esthetics.

Davis, Albert Gould, General Electric Company, Schenectady, N. Y. *Law, Electrical engineering.* Brooklyn, N. Y, Oct. 19, 71. B.S, Mass. Inst. Tech, 93; M.L, Nat. Univ, 97. Engineer, Davis Colby Ore Roaster Co, Middlesboro, Ky, 93; asst. examiner, U. S. Patent Office, 94–96; practising attorney, Washington, D. C, 96–97; *manager, Patent Dept, Gen. Elec. Co, 97–* Elec. Eng.

Davis, Arthur P(owell), 2212 First St, Washington, D. C. *Civil engineering.* Decatur, Ills, Feb. 9, 61. B.S, Columbian, 88. Topographer, U. S. Geol. Surv, 85–94, hydrographer, 94–98; chief hydrographer, Isthmian Canal Commission, 98–01; *asst. chief engineer, U. S. Reclamation Service, 02–* Assoc. ed, 'Jour. of Geog,' 02. Civil Eng; Nat. Geog. Soc; Forestry Ass; Wash. Acad. Irrigation and water supply in arid regions of the United States, especially in Arizona.—Hydrography of Nicaragua and of the American Isthmus.

Davis, Prof. B(enjamin) M(arshall), State Normal School, Chico, Cal. *Zoology.* North Salem, Ind, June 15, 67. B.S, Butler, 90, M.S, 92; Stanford, 95; Chicago, 96–97; California, summers, 00, 02, 03, 04. Acting prof. chem, Butler, 91–92; prof. chem. and physiol, Garfield, 92–93; biol, Whittier, 93–95; Butler, 95–97; State Nor. Sch, Los Angeles, 97–04; res. naturalist, Biol. Sta, San Diego, 04–05; *prof. biol, State Nor. Sch, Chico, 05–* Instr. histol, Chicago, 97; lecturer, Exten. Dept, S. California, 98–02. Nat. Educ. Ass; Ind. Acad; S. Cal. Acad. Pineal structures in Amia; bibliography of pineal structures; ecology of young of some of the Pacific Coast enteropneusts.—Ecological studies of animals of San Diego Bay; connective tissue of Amphioxus; life history of Dolichoglossus pusillus Ritter.

Davis, Dr. Bergen, Columbia University, New York, N. Y. **Physics.* White House, N. J, March 31, 69. B.S, Rutgers, 96; fellow, Columbia, 99–00, A.M, 00, Ph.D, 01, John Tyndall fellow, 01–03 (Göttingen, 01–02; Cambridge, 02–03). Teacher, N. Y. City, 96–99; asst. *physics, Columbia,* 00–01, *tutor, 03–* F.A.A; Physical Soc. Sound waves; motion of ions in varying magnetic field; electrical phenomena of various gases in the electrodeless discharge; relation between electrical and gravitational forces; etc.—Constants of the ether considered as an elastic solid.

Davis, Prof. Bradley M(oore), University of Chicago, Chicago, Ills. **Botany.* Chicago, Nov. 19, 71. Indiana, 89–91; A.B, Stanford, 92; A.B, Harvard, 93, A.M, 94, Ph.D, 95. Asst. *bot, Chicago,* 95–96, assoc, 96–98, instr, 98–02, *asst. prof, 02–* Head instr. bot, Woods Hole, 97– F.A.A; Soc. Nat; Bot. Soc; Bot. Cent. States; Bot. Gesell. Cytological studies among the cryptogams; life histories of Algae.—Reproductive phases and life histories among the thallophytes; principles of plant evolution.

Davis, Prof. Charles A(lbert), 303 S. Division St, Ann Arbor, Mich. *Botany, Forestry.* Portsmouth, N. H, Sept. 29, 61. A.B, Bowdoin, 86, A.M, 89; Michigan, 00; Sch. of Forestry, Cornell, 01–02; Ph.D, Michigan, 05. Science teacher, Hyde Park High Sch, Chicago, 86–87; prof. nat. science, Alma, 87–96, biol. and geol, 96–00; instr. forestry, *Michigan,* 01–05, *curator, Herbarium, 05–* Field agent, Mich. Geol. Surv, 96–; instr. geol, Michigan, summers, 00, 01; field asst, U. S. Geol. Surv, 04; consulting botanist, Mich. Biol. Surv, 05– Forestry Ass; Mich. Acad. Nature and origin of marl; plant distribution and ecology.—Relation of living plants to peat; ecological relations of the forests of Michigan; silvicultural characteristics of North American forest trees.

Davis, Charles Henry, 25 Broad St, New York, N. Y. *Engineering.* Montgomery Co, Pa, May 4, 65. C.E, Columbia, 87. Expert, Lynn Factory, Thomson-Houston Elec. Co, 87; engineer and asst. to pres, Sawyer-Man Elec. Co, N. Y, 87–88; engineer and supt. of construction, Westinghouse Elec. and Mfg. Co, N. Y, 88–89; *consulting engineer, Phila, Boston and N. Y, 89–* Executive officer in various companies. Math. Soc; Civil Eng; Elec. Eng; Mech. Eng; Min. Eng; Naval Archit. and Marine Eng; Naval Eng; Heat. and Vent. Eng; Franklin Inst; West. Soc. Eng; N. Y. Acad; Can. Soc. Civil Eng; Gt. Britain Iron and Steel Inst; British Inst. Elec. Eng; Scottish Inst. Eng. and Shipbuilders; N. of England Inst. Min. and Mech. Eng; Irish Inst. Civil Eng; New South Wales Eng. Ass, and other American and foreign societies. Railroad and street railway engineering, operation and management.—A high speed railroad between Philadelphia and New York.

Davis, Rear Admiral C(harles) H(enry), U. S. N, Navy Department, Washington, D. C. *Astronomy.* Cambridge, Mass, Aug. 28, 45. Grad, U. S. Naval Acad, 64. All grades from ensign to *rear admiral, U. S. N, 64–;* supt, U. S. Naval Observatory, 97–02 (except April–Sept, 98). Divisional commander, Battle Ship Squadron, North Atlantic Fleet, U. S. N. F.A.A; Wash. Philos. Soc; hon. mem. Soc. Astron. de Mex. Differences of longitude measured by use of submarine cables.

Davis, Dr. D(avid) J(ohn), Rush Medical College, Chicago, Ills. *Pathology.* Racine, Wis, Aug. 9, 75. B.S, Wisconsin, 98; M.D, Rush Med. Col, 03, fellow, 03–04; research student, Mem. Inst. for Infectious Diseases, Chicago, 04– Ass. Path. and Bact. The spinal cord; meningococcus infections; influenza infections.—Bacteriology of meningitis; bacteriology of whooping cough.

Davis, Dean Ellery W(illiams), 1345 S. 18th St, Lincoln, Nebr. **Mathematics.* Oconomowoc, Wis, March 29, 57. B.S, Wisconsin, 79; Ph.D, Hopkins, 84. *Prof. math,* Fla. Agr. Col, 84–88; South Carolina, 88–93; *Nebraska, 93–, dean, Col. of Lit, Science and Arts, 01–* Math. Soc; Nat. Geog. Soc; Nat. Educ. Ass; Nebr. Acad. (pres, 01). Geometrical representation of various analytical conceptions and processes.—The application of logical calculus in determining the foundations of mathematics.

Davis, Grant T(rain), Orono, Me. *Chemistry.* Clinton, Mich, March 19, 77. A.B, Michigan, 03. Asst. org. chem, Michigan, 02–03; *instr. gen. chem, Maine, 03–* Chem. Soc. Triphenylmethyl acetate.

Davis, Dr. G(wilym) G(eorge), 255 S. 16th St, Philadelphia, Pa. *Medicine.* Altoona, Pa, July 20, 57. A.B, Central High Sch, Phila, 76, A.M, 81; M.D, Pennsylvania, 79; mem. Royal Col. Surg, 80; M.D, Göttingen, 81. *Surgeon, St. Joseph's Hosp, 90–; Episcopal, 96–; Orthop, 97–; assoc. prof. applied anat, Pennsylvania, 00–* Am. Med. Ass; Orthop. Soc; Acad. Polit. and Soc. Sci; Pa. Med. Soc; Phila. Co. Med. Soc; fel. Phila. Col. Physicians; Phila. Acad. Surg. Surgery; orthopedics.—Surgery.

Davis, Harvey N(athaniel), Perkins Hall, Cambridge, Mass. *Mathematical physics.* Providence, R. I, June 6, 81. A.B, Brown, 01, A.M, 02; Whiting fellow, Harvard, 02–05, A.M, 03. *Instr.* math, Brown, 01–02; *physics and math, Harvard, 05–* Physical Soc; Math. Soc.

Davis, Dr. Herman S(tearns), International Latitude Observatory, Gaithersburg, Md. **Astronomy.* Milford, Del, Aug. 6, 68. A.B, Princeton, 92; fellow, Columbia, 93–95, A.M, 94, Ph.D, 95. Asst. astronomer, U. S. Scientific Exped, W. Africa, 89–90; tutor astron. and geod, Columbia, 95–99; in charge, Int. Latitude Observatory, 00–05. Expert computer and asst, U. S. Coast and Geod. Surv, 00; first asst, Allegheny Observatory Eclipse Exped, 00; assoc. ed, 'Astron. Jahresbericht,' 00– F.A.A; Astron. and Astrophys. Soc; Wash. Philos. Soc; Astron. Gesell. Variation of latitude; constant of aberration; mean star positions and proper motions; the history of astronomy.—New reduction of Piazzi's observations; biographical cyclo-

pedia of astronomers; variation of latitude; constant of aberration; bibliography of current astronomical literature in the United States.

Davis, Dr. J(ohn) J(efferson), 504 Monument Square, Racine, Wis. *Mycology.* Davis, Ills, 52. B.S, Illinois, 72; M.D, Hahnemann Med. Col, Chicago, 75. *Medical practitioner, 75–* F.A.A; Am. Inst. Homeop; Wis. Acad. (pres, 02–05); Wis. Homeop. Med. Soc. (pres, 93). Parasitic fungus flora of Wisconsin.

Davis, Prof. J(oseph) B(aker), 731 S. Ingalls St, Ann Arbor, Mich. *Surveying, Civil engineering.* Westport, Mass, July 31, 45. C.E, Michigan, 68. Civil engineer, various railroads, 68–72; asst. prof. civil eng, *Michigan,* 72–91, *prof. geod. and surv, 91–, dean, Dept. Eng, 04–* Chief engineer, St. Clair Flats Surv, 99–02; consulting engineer, 02– Civil Eng; Mich. Eng. Soc. (pres.). Surveying and construction. —Construction.

Davis, Dr. K(ary) C(admus), Menomonie, Wis. *Agriculture, Horticulture, Botany.* Decatur, Ills, Oct. 7, 67. B.S, Kas. State Agr. Col, 91, M.S, 94; Kas. State Nor. Sch, 92; Ph.D, Cornell, 00. Principal and science teacher, State High Sch, Austin, Minn, 92–98; prof. bot. and biol, State Nor. Sch, St. Cloud, 00–01; prof. hort. and instr. bot, West Virginia, and Exp. Sta, 01–02; *principal, Dunn Co. Sch. of Agr. and Domestic Econ, Menomonie, Wis, 02–* M.A.A; Forestry Ass; Nat. Educ. Ass. North American Ranunculaceae; Sialididae of North and South America; the peach and cranberry in West Virginia; bitter rot and blight diseases; trees in winter condition; effects of fertilizers on dates of ripening peaches.

Davis, Dr. N(athan) S(mith), Jr, 65 Randolph St, Chicago, Ills. *Medicine.* Chicago, Sept. 5, 58. A.B, Northwestern, 80, A.M, 83; M.D, Chicago Med. Col, 83; Heidelberg and Vienna, 85. Assoc. prof. path, Chicago Med. Col, 84; principles and practise of med, *Northwestern,* 86, *prof. principles and practise of med. and clin. med, 86–* Physician, Mercy and Wesley Hospitals; consultant, Washingtonian Home and Marion Sims Hosp; trustee, Northwestern; v. pres, Chicago Y. M. C. A; v. pres, U. S. Pharmacopœic Convention. Ninth Int. Med. Cong. (Council, Sect. Path.); Pan-Am. Med. Cong. (Council, Sect. Med.). F.A.A; Am. Med. Ass. (sec'y, Sect. Med, and chairman, Sect. Therapeut.); Climat. Ass; Therapeut. Ass; Ills. Med. Soc. (chairman, Med. Sect.); Chicago Acad. (rec. sec'y, librarian); Chicago Med, Path, Neur, Medico-Legal (pres.) and Internal Med. (v. pres.) Societies. Clinical studies; zoology.

Davis, Prof. Nathaniel F(rench), 159 Brown St, Providence, R. I. *Mathematics.* Laconia, N. H, June 11, 47. A.B, Brown, 70, A.M, 73. Instr, Riverview Mil. Acad, Poughkeepsie, N. Y, 71–73; vice principal and instr. math. and physics, State Nor. Sch, Kutztown, Pa, 73–74; instr. math, *Brown,* 74–79, asst. prof, 79–89, assoc. prof, 89–90, *prof. pure math, 90–* Sec'y, New Eng. Col. Entrance Certificate Board, 02– LL.D, Colby, 94. Math. Soc.

Davis, Prof. Noah K(nowles), University Station, Charlottesville, Va. *Philosophy.* Philadelphia, Pa, May 15, 30. A.B, Mercer, 49. Prof. nat. science, Howard, 52–59; principal, Judson Inst, Marion, Ala, 59–65; pres, Bethel (Ky.), 68–72; *prof. philos, Virginia, 73–* Hon. A.M. and Ph.D, Mercer; LL.D, Baylor. Logic; psychology; ethics.

Davis, Dr. R(oyall) O(scar) E(ugene), Chapel Hill, N. C. *Physical chemistry.* Newberry, S. C, July 11, 80. Ph.B, North Carolina, 01, Ph.D, 03; Leipzig, 04. Asst. anal. chem, *North Carolina,* 01–03, *instr. physical chem, 03–* Chem. Soc. Atomic weight of thorium.

Davis, Dr. Walter W(ells), 2417 Dean Ave, Spokane, Wash. *Physical training.* Adams, Minn, June 12, 72. B.S, Upper Iowa, 93; A.B, Stanford, 97; Ph.D, Yale, 01. Supt. pub. schools, Montour, Ia, 94–96; director physical training, Iowa (Grinnell), 99–02; Lehigh, 02–05. Instr, summer institutes, Ia, 98–00. Ass. Adv. Physical Educ; Soc. Col. Gym. Directors. Cross-education.

Davis, Prof. W(illia)m Harper, Lehigh University, South Bethlehem, Pa. *Psychology.* Philadelphia, Pa, Dec. 10, 77. Certificate in biol, Pennsylvania, 95; A.B, Princeton, 00; fellow, Columbia, 03–04. Asst. psychol, Columbia, 00–03; instr. *philos. and psychol, Lehigh,* 04–05, *asst. prof. in charge of Dept, 05–* Asst. biol, Summer Sch, Pennsylvania, 94. Sec'y gen. psychol, Int. Cong. Arts and Science, St. Louis, 04. F.A.A; Soc. Nat; Psychol. Ass. (sec'y and treas, 04–); Philos. Ass; Anthrop. Ass; Nat. Educ. Ass; fel. N. Y. Acad; N. Y. Zool. Soc; Phila. Zool. Soc. Comparative psychology; individual differences.

Davis, Prof. W(illiam) M(orris), 17 Francis Ave, Cambridge, Mass. **Physical geography, Geology.* Philadelphia, Pa, Feb. 12, 50. B.S, Harvard, 69, M.E, 70. Asst, Arg. Nat. Observatory, Cordoba, 70–73; asst. geol, *Harvard,* 77–79, instr, 79–85, asst. prof. physical geog, 85–90, prof, 90–99, *Sturgis-Hooper prof. geol, 99–* Asst. geologist, U. S. Geol. Surv, 90–; assoc. ed, 'Science' and 'Am. Jour. Science'; adviser, geog. research, Carnegie Inst; physiographer, Pumpelly's Carnegie Inst. Exped. to Turkestan, 03. Hon. Sc.D, Cape Town, 05. Nat. Acad; F.A.A. (sec'y, E, 87, v. pres, 03); Geol. Soc; Geog. Ass. (pres, 05); Nat. Geog. Soc; Am. Acad. (cor. sec'y); Philos. Soc; Boston Soc. Nat. Hist; cor. mem. Phila. Geog. Soc; Royal Geog. Soc; London Geol. Ass; Edinburgh Geol. Soc; Meteor. Gesell; Munich Geog. Gesell; hon. mem. Berlin Gesell. für Erdkunde; Vienna K. K. Geog. Gesell; Soc. Géog. de Paris; Soc. de Géog. de Genève; Christiania Acad; Imp. Russian Geog. Soc. Physical geography of the land.

Davis, W(illia)m T(hompson), 46 Stuyvesant Place, New Brighton, Staten Island, N. Y. *Entomology, Botany.* New Brighton, Oct. 12, 62. Public schools. N. Y. Entom. Soc; Staten

Isl. Ass. Arts and Sci. Staten Island natural history, chiefly entomology and botany.

Davison, Prof. Alvin, Campus, Easton, Pa. *Zoology.* Hainesburg, N. J, Jan. 16, 68. A.B, Nat. Univ, 89, A.M, 91; fellow, Princeton, 93–94, Ph.D, 96; Freiburg, 97. Instr. nat. science, Nor. Univ, Lebanon, O, 89–91; assoc. principal, Nor. Sch, Huntingdon, Tenn, 91–93; demonstrator *biol,* Princeton, 94; instr, *Lafayette,* 95–96, assoc. prof, 96–98, *prof, 98–* F.A.A; Ass. Anat. Anatomy of amphibians.—Deep lymphatics of the cat.

Davison, John M(ason), 340 Oxford St, Rochester, N. Y. *Chemistry.* Albany, N. Y, Dec. 18, 40. A.B, Williams, 62; Rochester, 89–04. *Private research, 89–* M.A.A; Chem. Soc; fel. Rochester Acad. Meteorites.—Form of combination of platinum in the Coahuila meteoric iron.

Davisson, Prof. S(chuyler) C(olfax), Indiana University, Bloomington, Ind. *Mathematics.* Galveston, Ind, Jan. 2, 66. A.B, Indiana, 90, A.M, 92; fellow, Clark, 95–96; Harvard, 98–99; Sc.D, Tübingen, 00. Instr. *math, Indiana,* 90–93, assoc. prof, 93–05, *junior prof, 05–* Math. Soc. Geodesic lines in higher space.

Davy, Jos(eph) Burtt, P. O. Box 434, Pretoria, Transvaal, South Africa. *Botany, Agrostology.* Findem, England, March 7, 70. Ilkley Col, Leeds; Royal Botanic Gardens, Kew, 91–92; California, 94–02. Student asst. bot, California, 93–95, asst. botanist, Agr. Exp. Sta, and asst. bot. California, 95–02, instr, 02–03; *govt. agrostologist and botanist, Transvaal Dept. of Agr, 03–* Asst. curator, U. S. Dept. Agr, 02–03; examiner bot, Transvaal Tech. Inst. Medal, Acad. Int. Géog. Bot. F.A.A; Nat. Geog. Soc; Wash. Bot. Soc; fel. Int. Ass. Bot; Royal Geog. Soc; London Linnean Soc; London Soc. Arts; S. African A. A. S; Johannesburg Field Nat. Soc. Origin of the raw materials of commerce; the Gramineae; halophytic plants.—Origin and distribution of the raw materials of commerce; the Gramineae of California.

Dawbarn, Prof. Robert H, 105 W. 74th St, New York, N. Y. *Surgery, Anatomy.* Near Greenwich, Conn, Jan. 11, 60. M.D, Columbia, 81. *Prof. surg. and anat, N. Y. Polyclinic Med. Sch. and Hosp, 85–* Visiting surgeon, N. Y. City Hosp; Polyclinic Hosp. Samuel D. Gross prize, 02. Ass. Anat; Am. Med. Ass; N. Y. State Med. Soc; N. Y. Surg. Soc; N. Y. Path. Soc; N. Y. Acad. Med; N. Y. Soc. Med. Juris; West End Med. Soc. Prevention of shock; saline intravenous infusion at high temperatures; extirpation of both external carotids to promote starvation of ineradicable sarcoma and carcinoma; surgery.

Dawson, Prof. Charles F(rancis), Lake City, Fla. *Veterinary science.* Near Easton, Md, 60. M.D, Baltimore Med. Col, 92; D.V.S, Nat. Vet. Col, 95. Prof. physiol, Nat. Vet. Col, 93–98; vet. inspector, Bur. Animal Indust, U. S. Dept. Agr, 92–00; *prof. vet. science, Florida, 01–* Soc. Bact. Veterinary diseases.—So-called 'salt-sick' in Florida cattle; Texas cattle fever.

Dawson, Dr. Percy M(illard), Johns Hopkins University, Baltimore, Md. **Physiology.* Montreal, Can, May 19, 73. A.B, Hopkins, 94, M.D, 98, fellow, 98–99. Asst. *physiol, Hopkins,* 99–00, instr, 00–01, assoc, 01–04, *assoc. prof, 04–* F.A.A; Physiol. Soc; Md. Med. and Chirurg. Faculty. Regeneration of nerves; hemorrhage and infusion.—Circulation of the blood (vasomotors and hemodynamics).

Day, Dr. Arthur L(ouis), 1458 Staughton St, Washington, D. C. *Experimental physics.* Brookfield, Mass, Oct. 30, 69. A.B, Yale, 92, Ph.D, 94. Instr. physics, Yale, 94–97; mem. scientific staff, Phys.-Tech. Reichsanstalt, Charlottenburg, 97–01; *physical geologist, U. S. Geol. Surv, 01–* Physical Soc; Wash. Geol. Soc; Wash. Philos. Soc; Physik. Gesell. Physical phenomena at very high and very low temperatures.—Thermal studies of rock-forming minerals.

Day, Dr. David T(albot), U. S. Geological Survey, Washington, D. C. *Geology, Chemistry, Mining.* Lakewood, O, Sept. 10, 59. A.B, Hopkins, 81, Ph.D, 83. *Chief, Div. Mining and Mineral Resources, U. S. Geol. Surv, 86–* Ed.-in-chief, 'Eng. and Min. Jour'; hon. chief, Dept. Mining and Metal, La. Purchase Expos. Bene Merenti, Austria. Geol. Soc; Chem. Soc; Soc. Chem. Indust; Min. Eng; Nat. Geog. Soc; Statist. Ass; Wash. Acad; Schweiz. Geog. Gesell. Constitution of petroleum and derivatives.

Day, Dr. William S(cofield), 337 W. 87th St, New York, N. Y. **Physics.* New York, Jan. 2, 64. A.B, Columbia, 84; Ph.D, Hopkins, 97. Student asst. *physics,* Hopkins, 95–96; asst, Barnard, Columbia, 97–98, tutor, 98–03, *lecturer, Columbia, 03–* F.A.A; Physical Soc; fel. N. Y. Acad. (sec'y, Sect. Astron. and Physics, 99–01). New apparatus for exact comparison and testing of thermometers; experimental tests of electrical theories.—Experimental proof of the mechanical force supposed to act on a dielectric subjected to a displacement current when in magnetic field.

Dean, Dr. Arthur L(yman), 42 Lake Place, New Haven, Conn. *Plant physiology.* Southwick, Mass, Oct. 1, 78. A.B, Harvard, 00; Ph.D, Yale, 02. Asst. *plant physiol, Sheffield Sci. Sch, Yale,* 02–03, *instr, 03–* Carnegie research asst; expert in charge dendrochem, U. S. Forest Service, 05– M.A.A; Soc. Plant Morph. and Physiol. The chemistry of inulin; the enzyme inulase; the proteolytic enzymes in plants.—The chemistry of forest products.

Dean, Prof. Bashford, Columbia University, New York, N. Y. **Zoology.* New York, Oct. 28, 67. A.B, Col. City of N. Y, 86; A.M, Columbia, 89, Ph.D, 90; Munich; Naples, 90; Misaki, Japan, 00–01. Tutor nat. hist, Col. City of N. Y, 86–90; instr. zool, *Columbia,* 91–96, adj. prof, 96–03, *prof. vert. zool, 03–* Asst, N. Y. State Fish Commission, 86–88; U. S. Fish Commission, 89–92, biologist, 00–01, special investigator of oyster culture in England,

France, Belgium, Spain, Portugal, Italy and Japan; director, Biol. Lab, Cold Spring Harbor, 90; mem. Advisory Board, N. Y. Aquarium, 02–; hon. curator fishes, Am. Mus. Nat. Hist, 03–; assoc. in charge collection of arms and armor, Metrop. Mus. Art, 03– Soc. Nat. (treas.); Soc. Zool; Paleont. Soc. (Exec. Council); Ass. Anat; fel. N. Y. Acad. (chairman, Zool. Sect.); N. Y. Zool. Soc; cor. mem. Moscow Soc. Nat; for. zool. societies. Biology of the oyster; insectivorous plants; biological stations; anatomy, embryology and paleontology of fishes, especially myxinoids, sharks, ganoids and chimaeroids; origin of vertebrate limbs; orthogenesis.—Paleontology of sharks; embryology of homea, chimaera, cestracion and chlamydoselachus.

Deane, Ruthven, 504 N. State St, Chicago, Ills. *Ornithology.* Cambridge, Mass, Aug. 20, 51. Fel. Ornith. Union; Ills. Audubon Soc. (pres, 98–); Chicago Acad.

Deane, Walter, 29 Brewster St, Cambridge, Mass. *Botany, Ornithology.* Boston, Mass, April 23, 48. A.B, Harvard, 70. Instr, St. Mark's Sch, Southborough, Mass, 71–78; John P. Hopkinson's Sch, Boston, Mass, 78–95; *asst. to Wm. Brewster at his museum, Cambridge, Mass, 97–* Mem. Ornith. Union; New Eng. Bot. Club (v. pres, 00–); Nuttall Ornith. Club. Flora of northeastern North America; ornithology.

Dearborn, Prof. George V(an) N(ess), Tufts College Medical and Dental Schools, Boston, Mass. *Physiology, Psychology.* Nashua, N. H, Aug. 15, 69. B.L, Dartmouth, 90; M.D, Columbia, 93; A.M, Harvard, 96; Ph.D, Columbia, 99. Asst. philos, Harvard, 96–97, *physiol,* 99–00; asst. prof, *Tufts,* 00–04, *prof, 04–* M.A.A; Soc. Nat; Psychol. Ass; Philos. Ass; Anthrop. Ass; Am. Acad. Med; Boston Soc. Nat. Hist; Boston Soc. Med. Sci; Boston Med. Library; Boston Soc. Med. Improv; Physiol. Colloquium. Emotion; animal psychology; recognition; imagination; innervation of the heart; apparatus. —Heart innervation; animal respiratory types; consciousness under anesthesia; muscular contraction.

Dearborn, Dr. Walter F(enno), 625 Mendota Court, Madison, Wis. *Psychology.* Marblehead, Mass, July 19, 78. A.B, Wesleyan, 00, A.M, 03; Ph.D, Columbia, 05. *Instr. educ. psychol, Wisconsin, 05–* M.A.A. Retinal local signs; the psychology of reading.—Motor concomitants of mental processes.

DeBarr, Prof. Edwin, Norman, Okla. *Chemistry.* Lansing, Mich, Jan. 14, 59. B.S, Mich. Agr. Col, 91; B.Ped, Mich. Nor. Col, 92; Ph.B, Michigan, 92; M.S, Mich. Agr. Col, 93; Ph.D, Michigan, 99. Supt. schools, Almont, Mich, 86–90; *prof.* chem. and biol, Albion, 91–92; *chem, Oklahoma, 92–* Esterification of α, β, γ chlor acids with water at 150°.—Commercial values of plaster and cement bodies in Oklahoma and in Indian Territory.

DeGarmo, Prof. Charles, 809 E. State St, Ithaca, N. Y. *Science and art of education.* Wisconsin, Jan. 7, 49. Grad, Ills. State Nor. Univ, 73; Ph.D, Halle, 86. Principal pub. schools, Naples, Ills, 73–76; training teacher, Ills. State Nor. Univ, 76–83, prof. modern lang, 89–90; psychol. and educ, Illinois, 90–91; pres, Swarthmore, 91–98; *prof. science and art of educ, Cornell, 98–* Joint ed, 'Ills. Sch. Jour,' 81–82. Nat. Educ. Ass. (mem. Council); Philos. Soc; Nat. Herbart. Soc. Education.

Deghuée, Dr. J(oseph) A(lbert), 247 Harrison St, Brooklyn, N. Y. *Chemistry.* Brooklyn, June 26, 70. Ph.B, Columbia, 90, A.M, 92, Ph.D, 93. Asst. demonstrator physiol. chem. and toxicol, Columbia, 90–96; asst. chemist, Health Dept, N. Y. City, 96–02, chief chemist, 02–04; *anal. and consulting chemist, 04–* Chemist, Hygeia Distilled Water Co; U. S. Wood Preserving Co. F.A.A; Chem. Soc; Soc. Chem. Indust; Brooklyn Inst. Organic non-sugar in cane juice.—Determination and use of preservatives in food; improved methods in food analysis.

DeHass, Dr. Wills, Chestnut Hill, Philadelphia, Pa. *Archeology, History.* Washington Co, Pa, July 4, 17. Western Univ. of Pa; Washington and Jefferson; M.D, Jefferson Med. Col. U. S. Consul, Yucatan, 50–53; pres, Allegheny (Md.), 57; in charge Ohio Valley antiquities, Bur. Ethnol, Smithsonian Inst, 79–81. Special examiner, U. S. Pension Office, 81; lieut. col, 77th Ohio Vols, Civil War; lecturer archeol. Am. Hist. Soc; Wash. Anthrop. Soc; hist. societies of Wash, N. Y, Md, Va, Wis, Ills, etc. Archeology and history of America, especially of western and southern sections.—Prehistoric American archeology.

Deimel, Richard F(rancis), 209 W. 97th St, New York, N. Y. *Mathematical physics.* New York, June 27, 81. B.S, Col. City of N. Y, 02; A.M, Columbia, 03. Asst. mech, *Columbia,* 03–05, *lecturer physics, 05–* M.A.A; Math. Soc; Circolo Mat. di Palermo.

Delabarre, Prof. E(dmund) B(urke), 9 Arlington Ave, Providence, R. I. **Psychology.* Dover, Me, Sept. 25, 63. Brown, 82–83; A.B, Amherst, 86; Berlin, 87–88; A.M, Harvard, 89; Ph.D, Freiburg, 91; Paris, 91–92. Assoc. prof. *psychol, Brown,* 91–96, *prof, 96–* Director, Psychol. Lab, Harvard, 96–97. F.A.A; Soc. Nat; Psychol. Ass; Soc. Psychical Research; cor. mem. Phila. Geog. Soc. Muscular contributions to consciousness; space-perception; emotions; effects of drugs; individual temperament.

Delafield, Dr. Francis, 12 W. 32d St, New York, N. Y. **Medicine.* New York, Aug. 3, 41. A.B, Yale, 60, M.D, 62. Prof. *practise of med, Columbia,* 76–01, *emer. prof, 01–* LL.D, Yale, 90; Columbia, 04. Am. Physicians. Medicine; pathology.

Delany, Patrick B(ernard), South Orange, N. J. *Electrical engineering.* Kings Co, Ireland, Jan. 28, 45. Nat. and private schools, Ireland; parochial schools, U. S. Chief operator, manager and supt. telegraphs, U. S, 68–78; *electrical engineer, 78–* Newspaper correspondent, 68–78. Gold medal, Inventions Exhib, London, 85; Elliott

Cresson gold medal, Franklin Inst, 85 and 96, John Scott medal, 85; gold medal, Pan-Am. Expos, 01. M.A.A; Elec. Eng; Franklin Inst; Old Timer Telegraph Ass. Synchronous multiple telegraphy; automatic high speed telegraphy; cable telegraphy; anti-induction cables.

Dell, Dr. Harry H(ough), Bureau of Agriculture, Manila, P. I. *Comparative medicine.* London, Can, June 13, 69. D.V.Sc, McGill, 96. Asst. supt. schools, Winchester, Ills, 92–93; U. S. inspector, Bur. Animal Indust, Omaha, Nebr, 00–03; *director animal indust, Bur. Agr, P. I, 03–* Assoc. ed, 'McGill Fortnightly,' 95–96; vet. ed, 'Dog Fancier,' 96–03. Medal, Faculty Comp. Med, McGill, 96. Hon. fel. Montreal Vet. Ass; hon. fel. Quebec Board Agr; Nebr. Vet. Ass. (v. pres.); hon. fel. Montreal Psychol. Soc. Pyemias, parasitism and psychology of domestic animals.—Infectious tropical diseases of animals; reptilian parasitism.

Dellenbaugh, F(rederick) S(amuel), The Century Club, 7 W. 43d St, New York, N. Y. *Anthropology, American history.* McConnellsville, O, Sept. 13, 53. F.A.A; Anthrop. Ass; fel. Ethnol. Soc. American archeology; American Indians; history of western United States.—Location of the towns of the Rio Grande valley, New Mexico, etc, prior to 1700; exploits of one D. Julien in southwestern United States, 1836.

DeLong, Prof. Ira M(itchell), 1341 Broadway, Boulder, Colo. *Mathematics.* Monroe, Ia, Jan. 7, 55. A.B, Simpson, 78, A.M, 81. *Prof.* math, Central (Ia.), 78–86; Latin, Iowa Wesleyan, 86–88; *math, Colorado, 88–* Math. Soc.

DeLury, Prof. Alfred T(ennyson), 110 Bedford Road, Toronto, Can. *Mathematics.* Manilla, Ont, May 13, 64. A.B, Toronto, 90; Clark, 90–91; A.M, Toronto, 02. Lecturer *math, Toronto,* 92–02, *assoc. prof, 02–* Lecturer math, Ont. Nor. Col, 94–96. Math. Soc.

Denison, Prof. Charles S(imeon), 502 E. Huron St, Ann Arbor, Mich. *Stereotomy, Mechanism, Drawing.* Gambier, O, July 12, 49. C.E, Vermont, 71, M.S, 74. Instr. eng, Michigan, 72–81, asst. prof. drawing, 81–85, prof. descrip. geom, stereot. and drawing, 85–02. Asst. engineer, Milwaukee and North. R.R, 71–72; U. S. astronomer and surveyor, 73. Eng. Educ; Mich. Eng. Soc; Detroit Eng. Soc. Graphical construction; machine movements; kinematics of machinery.

Dennett, Dr. W(illia)m S(awyer), 8 E. 49th St, New York, N. Y. *Ophthalmology.* Bangor, Me, March 1, 49. A.B, Bowdoin, 71; M.D, Harvard, 74. Surgeon, N. Y. Eye and Ear Infirmary, 88–01. M.A.A; Math. Soc. (treas, 04); Physical Soc; Ophthal. Soc; N. Y. Ophthal. Soc.

Dennis, Prof. D(avid) W(orth), Richmond, Ind. *Biology, Photomicrography.* Dalton, Ind, April 8, 49. A.B, Earlham, 73, A.M, 76; Ph.D, Syracuse, 86; Bonn and Edinburgh, 89–90. Prof. biol, High Sch, Richmond, Ind, 75–79; pres, Wilmington, 79–81; principal, Bloomingdale Acad, 82–84; *prof. biol, Earlham, 84–* F.A.A; fel. Ind. Acad. (pres, 00); Ind. Sci. Teachers' Ass. (pres, 98). Photomicrography; embryology.

Dennis, Prof. L(ouis) M(unroe), Cornell University, Ithaca, N. Y. **Chemistry.* Chicago, Ills, May 26, 63. Ph.B, Michigan, 85, B.S, 86; Aachen, Munich, Dresden and Wiesbaden, 89–91. Instr. chem, *Cornell,* 87–89, asst. prof, anal. chem, 91–93, assoc. prof. *inorg. and anal. chem,* 93–00, *prof, 00–, head, Dept. Chem, 03–* F.A.A; Chem. Soc. Inorganic chemistry; gas analysis.

Denniston, Dr. R(ollin) H(enry), 421 Lake St, Madison, Wis. *Botany.* Oakfield, Wis, March 21, 74. Ph.G, Wisconsin, 97, B.S, 99, fellow, 99–00, Ph.D, 04. Asst. instr. *bot, Wisconsin,* 00–03, *instr, 03–* Wis. Acad. (treas, 05–06). Structure of the starch grain; adulteration of powdered drugs.—Carbohydrates in plants; fleshy fungi of Wisconsin.

Denny, Dr. Francis P(arkman), 173 Walnut St, Brookline, Mass. *Medicine, Bacteriology.* Brookline, Jan. 2, 69. A.B, Harvard, 91, M.D, 95. *Asst.* bacter, *Harvard Med. Sch,* 99–04, *clin. med, 04–* Ass. Path. and Bact; Pub. Health Ass. Diphtheria.

Densmore, Prof. Hiram D(elos), Beloit, Wis. *Botany.* Richmond, Wis, Jan. 20, 62. A.B, Beloit, 86; Cornell, 87–88; A.M, Beloit, 90. Principal, High Sch, Prairie du Chien, 87–88; instr. *bot, Beloit,* 88–90, *prof, 90–* Soc. Nat; Bot. Cent. States; Wis. Acad. Morphology of group of angiosperms.

Derby, Orville A(delbert), No. 80 Rua Visconde de Rio Branco, São Paulo, Brazil. **Geology.* Kelloggsville, N. Y, July 23, 51. B.S, Cornell, 73, M.S, 74. Asst. geologist, Brazil Geol. Surveys, 75–78; director, Geol. Sect, Nat. Mus. of Rio de Janeiro, 80–91; chief, Geog. and Geol. Surv, State of São Paulo, Brazil, 86–04. Instr. geol, Cornell, 93–95. F.A.A. (v. pres, 02); Geol. Soc; London Geol. Soc. Geology.

Dercum, Prof. F(rancis) X(avier), 1719 Walnut St, Philadelphia, Pa. *Nervous and mental diseases.* Philadelphia, Aug. 10, 56. M.D, Ph.D, Pennsylvania, 77. Instr. nervous diseases, Pennsylvania, 83–92; *prof. nervous and mental diseases, Jefferson Med. Col, 92–* Ass. Anat; Neur. Ass. (past pres.); Philos. Soc; Phila. Neur. Soc. (past pres.); Phila. Path. Soc; Phila. Col. Physicians. Clinical and pathological neurology; insanity.

Derick, Prof. Carrie M, McGill University, Montreal, Can. *Botany.* Clarenceville, Que. A.B, McGill, 90, A.M, 96; Woods Hole, 95, 96, 97, 00; Royal Col. Science, London, 98; Bonn, 01–02. Demonstrator *bot, McGill,* 91–95, lecturer, 96–04, *asst. prof, 04–* Soc. Nat; Soc. Plant Morph. and Physiol. Holdfasts of the Rhodophyceae; nuclear changes in growing seeds.—Anabiosis; nuclear differences between resting and active cells.

Derr, Dr. Homer M(unro), Thomas S. Clarkson Memorial School of Technology, Potsdam, N. Y. *Physics, Geology.* Turbotville, Pa, Feb. 5, 72. A.B, Stanford, 98; A.M, Columbia, 01; Tyndale fellow, Pennsylvania, 01–03, Ph.D, 03. Asst. physics, Columbia, 99–01; instr. geol. and mining, Wyoming, 01–02; supt, Santa Margarita Gold Mining Co, Colombia, S. A, 03–04; *prof.* physics and geol, Epworth, 04–05; *math. and civil eng, Thomas S. Clarkson Mem. Sch. Tech, 05–* Instr. math, Palo Alto Summer Sch, 98. Geol. Soc; Min. Eng. Petrographic analysis.—Siliceous oolites of Sweetwater County, Wyoming.

Derr, Prof. Louis, 83 Center St, Brookline, Mass. *Physics, Electrical engineering.* Pottsville, Pa, Aug. 6, 68. A.B, Amherst, 89, A.M, 92; B.S, Mass. Inst. Tech, 92. Asst. *physics, Mass. Inst. Tech,* 92–93, instr, 93–01, asst. prof, 01–04, *assoc. prof, 04–* Instr. physics, Boston Univ, and Boston Nor. Sch. of Gymnastics, 95– Experimental physics.

Dewey, Dr. D(avis) R(ich), Massachusetts Institute of Technology, Boston, Mass. *Economics, Statistics.* Burlington, Vt, April 7, 58. A.B, Vermont, 79; Ph.D, Hopkins, 86. Teacher, Underhill, Vt, 79–81; principal, Hyde Park High Sch, Chicago, 81–83; asst. prof. *econ. and statist, Mass. Inst. Tech,* 86–92, *prof, 93–* Chairman, Mass. Special Commission on the Unemployed, 94; Commission on Charitable and Reformatory Interests and Institutions of Mass, 96; Board of Munic. Statist. of Boston, 97; expert agent, wage statist. for the Twelfth Census, 02. Econ. Ass. (mem. Pub. Committee); Statist. Ass. (ed. and sec'y, 86–); L'Inst. Int. Statist. Finance, labor, banking and statistics.

Dewey, Frederic P(erkins), Lanier Heights, Washington, D. C. *Chemistry, Metallurgy.* Hartford, Conn, Oct. 4, 55. Ph.B, Yale, 76. Instr. chem, Lafayette, 76–77; curator econ. geol. and metal, U. S. Nat. Mus, 82–89; chemist, building stones, Tenth Census, 81; mineralogist, U. S. Geol. Surv, 82; *assayer, Bur. of the Mint, U. S. Treas. Dept.* Chem. Soc; Min. Eng; Soc. Chem. Indust; Electrochem. Soc; Wash. Chem. Soc. (pres, 93). Analytical chemistry and its application to metallurgy.

Dewey, Prof. John, Columbia University, New York, N. Y. **Philosophy.* Burlington, Vt, Oct. 20, 59. A.B, Vermont, 79; Ph.D, Hopkins, 84. Instr. and asst. prof. philos, Michigan, 84–88; prof, Minnesota, 88–89; Michigan, 89–94; Chicago, 94–04, director, Sch. of Educ, 02–04; *prof. philos, Columbia, 04–* LL.D, Wisconsin, 04. Soc. Nat; Psychol. Ass. (pres, 99); Philos. Ass. (pres, 05). Logical theory; social psychology; ethical history; history of moral beliefs and practises of humanity.

Dewey, Lyster H(oxie), 1337 Wallach Place, N. W, Washington, D. C. **Botany.* Cambridge, Mich, March 14, 65. A.B, Mich. Agr. Col, 88. Instr. bot, Mich. Agr. Col, 88–90; *asst. botanist, U. S. Dept. Agr, 90–* F.A.A; Nat. Geog. Soc; Wash. Bot. Soc; Wash. Biol. Soc. Grasses; weeds troublesome to agriculture; fiber plants; origin and classification of varieties of cotton; production of fiber from hemp, flax, sisal and manila plants.

DeWitt, Dr. Lydia M, 925 N. University Ave, Ann Arbor, Mich. **Anatomy.* Flint, Mich, Feb. 1, 59. M.D, Michigan, 98, B.S, 99. Demonstrator anat, *Michigan,* 96–97, asst. *histol,* 98–02, *instr, 02–* Ass. Anat; Am. Med. Ass; Mich. Med. Soc; Washtenaw Co. (Mich.) Med. Soc; Woman's Research Club (pres.). Nerve endings in muscle, tendon and esophagus; morphology kidneys.—Morphology and function of areas of Langerhans.

Dexter, Prof. Edwin G(rant), 903 W. Green St, Urbana, Ills. *Psychology, Education.* Calais, Me, July 21, 68. B.P, Brown, 91, A.M, 92; Ph.D, Columbia, 99. Science master, High Sch, Colo. Springs, 92–95; *prof.* psychol, Colo. State Nor. Sch, 95–00; *educ, Illinois, 00–, director, Sch. Educ, 05–* F.A.A; Psychol. Ass; Nat. Educ. Ass. (pres, Child-study Sect.); Soc. Sci. Educ; Am. Geog. Soc; Ills. Child-study Soc. The influence of the weather on conduct; history of education in the United States.

Dexter, Prof. Franklin, 148 Marlborough St, Boston, Mass. **Anatomy.* Boston, May 10, 57. M.D, Columbia, 87. Asst. demonstrator anat, Columbia, 92–93; asst. histol, *Harvard Med. Sch,* 93–94, demonstrator *anat,* 94–95, asst. prof, 96–99, *assoc. prof, 00–* F.A.A; Ass. Anat; Mass. Med. Soc. Medulla of the rabbit; abdomen, vitelline vein and brain of the cat.—Paraphysis of Mammalia.

Dickson, Dr. Charles W(illiam), 179 Alfred St, Kingston, Ont, Can. *Chemistry, Geology.* Hamilton, Ont, Jan. 13, 78. A.M, Queen's (Can.), 96–00, Sch. Mining, 00–01; science research scholar, Royal Exhib. of 1851, London, England, 01, 02, 03; Ph.D, Columbia, 03; Heidelberg and Freiburg, 03–04. Demonstrator anal. chem, *Queen's (Can.),* 01–02, *lecturer chem, Sch. Mining, 03–* Chemist, Assay Office, Ont. Bur. Mines, 00; Dominion Iron and Steel Co, Sidney, N. S, 01. Min. Eng; Can. Min. Inst. Genetic relations of ore deposits; ore deposits of Sudbury, Ont.—Platinum contents of nickel and copper ores.

Dickson, Prof. L(eonard) E(ugene), Box 142, University of Chicago, Chicago, Ills. **Mathematics.* Independence, Ia, Jan. 22, 74. B.S, Texas, 93, teaching fellow, 93–94, A.M, 94; fellow, Chicago, 94–96, Ph.D, 96; Leipzig and Paris, 96–97. Chemist, Tex. Geol. Surv, 92–93; instr. *math,* California, 97–99; assoc. prof, Texas, 99–00; *asst. prof, Chicago, 00–* Ed, 'Am. Math. Monthly.' Math. Soc. (assoc. ed, 'Trans.'); London Math. Soc. Theory of groups (finite and infinite); theory of numbers; projective geometry; applications of group theory.—The theory of groups in a general field.

Diefendorf, Dr. A(llen) Ross, 68 Crescent St, Middletown, Conn. *Psychiatry.* Savannah, N. Y, Dec. 21, 71. A.B, Yale, 94, M.D, 96. Junior

asst. physician, Worcester Insane Hosp, 96–97, senior asst. physician, 97–98; *asst. physician and pathologist, Conn. Insane Hosp, 98–; lecturer psychiat, Med. Sch, Yale, 98–* Soc. Bact; Medico-Psychol. Ass; N. Y. Neur. Soc. Clinical psychiatry.

Dietz, Dr. W(illiam) G(eorge), 21 N. Vine St, Hazleton, Pa. *Entomology.* Voehl, Germany, July 30, 49. Heidelberg; M.D, Hahnemann Med. Col, Phila, 75. *Practising physician, 75–* Curculianidae and Tineina of North America. —Tineina of North America.

Diller, J(oseph) S(ilas), 1454 Belmont St, N. W, Washington, D. C. **Geology, Petrography.* Plainfield, Pa, Aug. 27, 50. B.S, Harvard, 79; Heidelberg, 80–83. Teacher, State Nor. Sch, Westfield, Mass, 73–77; *geologist,* Assos Exped, 81–82; *U. S. Geol. Surv, 83–* Assoc. ed, 'Am. Jour. of Science.' Diploma, Paris Expos, 00. F.A.A; Geol. Soc. (mem. Council, 96–99); Nat. Geog. Soc; Wash. Acad; Wash. Geol. Soc. (pres, 01–02); Wash. Philos. Soc. (sec'y, 88–94). General geology; petrography; geology of Crater Lake National Park, Redding, Klamath Mountains and Taylorsville region in California, etc; sandstone dikes; igneous rocks of Pacific Coast, etc.

Dimmock, Dr. George, Berkshire St, Springfield, Mass. *Entomology.* Springfield, May 17, 52. A.B, Harvard, 77; Ph.D, Leipzig, 81; Paris, 81–82. *Private research, 82–* Ed, 'Psyche,' 77–90. F.A.A; Soc. Nat; Soc. entom. de France. Mouth parts of Diptera; scales and glands of insects; early stages of Coleoptera.

Ditman, Dr. Norman E(dward), 240 W. 72d St, New York, N. Y. *Pathology.* Brooklyn, N. Y, May 28, 77. Ph.B, Yale, 96; M.D, A.M, Columbia, 00. Asst. clin. path, *Columbia,* 02–03, *instr. path, 03–* House physician, St. Luke's Hosp, 01–02; pathologist, Sloane Maternity and Roosevelt Hospitals. Ass. Path. and Bact; N. Y. Path. Soc.

Ditmars, R(aymond) L(ee), 1219 Tinton Ave, New York, N. Y. *Natural history.* Newark, N. J, June 20, 76. Pub. and private schools. Asst. curator entom, Am. Mus. Nat. Hist, 91–97; stenographer, 97–99; reporter, 'N. Y. Times', 99–00; *curator reptiles, N. Y. Zool. Park, 00–* N. Y. Zool, Entom. and Linnean Societies. Herpetology.—Diseases of reptiles and mammals.

Dixon, Dr. Roland B(urrage), Peabody Museum, Cambridge, Mass. *Anthropology.* Worcester, Mass, Nov. 6, 75. A.B, Harvard, 97, A.M, 98, Ph.D, 00. Asst. *anthrop, Harvard,* 98–00, *instr, 01–* F.A.A. (sec'y, H, 03); Anthrop. Ass; fel. Ethnol. Soc; Folk-lore Soc; Am. Geog. Soc. (assoc. ed, 'Bul,' 99–00); Nat. Geog. Soc; Polynesian Soc; Berlin Gesell. für Erdkunde. American ethnology and archeology; languages and culture of the Indians of the Pacific Coast, especially California.

Dixon, Dr. Samuel G(ibson), Ardmore, Pa. *Bacteriology.* Philadelphia, Pa, March 23, 51. Admitted to bar, 77; M.D, Pennsylvania, 86; King's Col. and State Col. Med, London; Pettenkofer's Lab. Hygiene, Munich. Asst. demonstrator physiol, *Pennsylvania,* 86–88, *prof. hygiene, Med. and Sci. Dept. and dean, Auxiliary Dept. Med, 88–* Prof. bacter. and micros. tech, Acad. Nat. Sciences, Phila, 90–91, curator, 91–92, executive curator, 92–, pres, 96; mem. Board of Pub. Educ, 98–; Commissioner of Health, Pa, 05– M.A.A; Philos. Soc; Franklin Inst; Pa. Anti-Tuberculosis Soc. (v. pres.); Pa. Med. Soc; Pa. Hist. Soc; Phila. Acad. (pres, 96–); Phila. Co. Med. Soc; Phila. Col. Physicians; Phila. Zool. Soc; hon. mem. several foreign societies. Hygiene; preventive medicine; bacteriology, especially of tuberculosis.

Doan, Prof. Frank C(arleton), 911 Grove St, Meadville, Pa. *Psychology, Philosophy.* Nelsonville, O, Feb. 13, 77. Hiram, 92–95; Ph.B, Ohio State, 98; A.M, Harvard, 00, Ph.D, 04. *Prof.* philos, Ohio (Athens), 00–04; *theol. and philos. of religion, Meadville Theol. Sch, 04–* Psychol. Ass. Types of religious experience; phenomenalism in ethics.—The place of the emotions in the moral development of the race; psychology of tribe, race and world movements in religion.

Doane, Prof. R(ennie) W(ilbur), Keyport, Wash. *Zoology.* Des Moines, Ia, March 11, 71. A.B, Stanford, 96. Instr. zool. and entom, *Wash. Agr. Col,* 96–98, asst. prof, 98–01, *supt. fisheries, Exp. Sta, 01–* Asst. entom, Stanford, 05– Economic entomology; propagation of oysters and salmon; economic food fishes.—The fisheries of Washington.

Doane, S(amuel) E(verett), 18 E. Boulevard, Cleveland, O. *Electrical engineering.* Swampscott, Mass, Feb. 28, 70. High Sch. Foreman, various rooms, Incand. Lamp Dept, Thomson-Houston Co, Lynn, Mass, 86–90, asst. manager, 90–93; asst. engineer and later supt. and asst. engineer, Edison Lamp Works, Harrison, N. J, 93–96; manager, Repair Lamp Dept, Thomson-Houston Co, 95–96; engineer, Gen. Elec. Co, Schenectady, N. Y, 97; supt, Bryan Marsh Co, Marlboro, Mass, 97–00; *chief engineer, Nat. Elec. Lamp Ass, Marlboro, Mass, and Cleveland, O, 00–* Elec. Eng. Incandescent electric lamp making.

Dock, Dr. George, 1014 Cornwell Place, Ann Arbor, Mich. **Medicine.* Hopewell, Pa, April 1, 60. M.D, Pennsylvania, 84. Asst. clin. path, Pennsylvania, 87–88; *prof.* path, Tex. Med. Col. and Hosp, 88–91; *med, Michigan, 91–* Physician, Univ. Hosp. Dispensary, Phila. Hon. A.M, Harvard, 95; Sc.D, Pennsylvania, 04. F.A.A; Ass. Path. and Bact; Am. Physicians; Am. Med. Ass; Am. Acad. Med; various state and local med. societies. Pathology of malaria, dysentery, Protozoa, diseases of the blood, etc.—Pathology of pernicious anemia.

Dodd, Dr. Edward L(ewis), Room 108, Liberal Arts Building, Iowa City, Ia. *Mathematics.* Cleveland, O, Nov. 1, 75. A.B, Western Reserve, 97, A.M, 01; A.M, Yale, 02, Ph.D, 04.

Instr. math, Iowa, 04– Cashier and asst. bookkeeper, Browning, King and Co, Cleveland, O, 97–00. Math. Soc. Iterated limits of multiple sequences.—Vector differential equations; implicit functions.

Dodge, Cha(rle)s Richards, 1336 Vermont Ave, Washington, D. C. *Botany.* Covington Co, Miss, July 17, 47. Sheffield Sci. Sch, Yale, 65–67. Asst. entomologist and curator, Mus. of Agr, U. S. Dept. Agr, 67–77, special agent in charge, Office of Fiber Investigations, 89–98; *consulting textile expert, 98–* Ed. and publisher, 'Field and Forest,' 72–75; special agent, Dept. Agr, Tenth Census; director agr, U. S. Commission, Paris Expos, 98–01; officially connected with Centennial, New Orleans, Paris, Columbian, Atlanta, Nashville, Omaha, Pan-Am. and La. Purchase Expositions. Chevalier du Mérite agricole, 90; Légion d'honneur, 01. F.A.A; Wash. Entom. Soc; Wash. Philos. Soc. Vegetable fibers; fibrous plants in relation to their uses in commerce; a fiber survey of the Republic of Mexico.

Dodge, Prof. Charles Wright, 330 Oxford St, Rochester, N. Y. *Biology.* Cape Vincent, N. Y, Jan. 15, 63. B.S, Michigan, 86, M.S, 89. Instr. bot. and zool, High Sch, Detroit, 86–90; *biol, Rochester,* 90–92, *prof, 92–* Biologist, Rochester Health Dept, 94– F.A.A; Soc. Nat; assoc. Ornith. Union; Pub. Health Ass; Wash. Biol. Soc; N. Y. State Sci. Teachers Ass. (pres, 00); Rochester Acad. (cor. sec'y, 92–02, pres, 02–03); Rochester Acad. Med. Limnology.

Dodge, Prof. Raymond, 107 Lawn Ave, Middletown, Conn. **Psychology.* Woburn, Mass, Feb. 20, 71. A.B, Williams, 93; Ph.D, Halle, 96. Asst. to Prof. B. Erdmann, Halle, 96–97; prof. philos, Ursinus, 97–98; instr, *Wesleyan,* 98–99, assoc. prof, 99–02, *prof. psychol, 02–* Asst. librarian, Williams, 93–94. Psychol. Ass; Philos. Ass. The psychology of reading; the function of eye movements in vision; types and velocity of eye movements; the function of eye movements in the visual perception of motion.—The shape of the cornea; errors of fixation; theory of visual space.

Dodge, Prof. Richard E(lwood), Teachers College, Columbia University, New York, N. Y. **Geography, Physiography.* Wenham, Mass, March 30, 68. A.B, Harvard, 90, A.M, 94. Asst. geol, Harvard, 91–94, instr, 94–95; instr. and assoc. prof. nat. science, *Teachers Col, Columbia,* 95–97, *prof. geog, 97–* Asst, U. S. Geol. Surv, 90–95; ed, 'Jour. of Sch. Geog,' 97–01; assoc. ed, 'Bul. Am. Geog. Soc,' 99–; ed, 'Jour. of Geog,' 02– F.A.A; Geol. Soc; Geog. Ass; fel. N. Y. Acad. Scientific geography for elementary schools.—Geographical history of the region occupied by ancient peoples of southwestern United States.

Dodson, Dr. John Milton, 568 Washington Boulevard, Chicago, Ills. *Medicine.* Berlin, Wis, Feb. 17, 59. A.B, Wisconsin, 80; M.D, Rush Med. Col, 82, and Jefferson Med. Col, 83; A.M, Wisconsin, 88; Berlin and Vienna, 96. Lecturer and demonstrator anat, *Rush Med. Col,* 89–93, *prof.* physiol. and demonstrator anat, 93–94, physiol. and histol, 94–00, *med, 00–,* junior dean, 98–99, *dean, 99–, professorial lecturer med. and dean, Med. Courses, Chicago, 01–* Prof. diseases of children, Woman's Med. Sch, Northwestern, 93–97. Soc. Nat; Ass. Anat; Am. Med. Ass; Ills. Med. Soc; Wis. Med. Soc; Chicago Med, Internal Med, Path. and Pediat. Societies. Diseases of children.

Dohme, Dr. A(lfred) R(obert) L(ouis), 1 Club Road, Roland Park, Baltimore, Md. *Pharmaceutical chemistry.* Baltimore, Feb. 15, 67. A.B, Hopkins, 86, Ph.D, 89. Asst, Fresenius's Lab, Wiesbaden, 90–91; *chemist and gen. manager, Sharp and Dohme, Baltimore, 91–* Instr. pharmacy, Med. Sch, Hopkins, 00–; sec'y, Revision Committee, U. S. Pharmacopœia. Chem. Soc; Pharmaceut. Ass; Soc. Chem. Indust; Chem. Gesell. Alkaloids; assay of drugs, especially vegetable drugs; chemistry, pharmacognosy and histology of drugs.—Cascara sagrada.

Dolbear, Prof. A(mos) E(merson), Tufts College, Mass. **Physics, Astronomy.* Norwich, Conn, Nov. 10, 37. A.B, Ohio Wesleyan, 66; A.M, M.E, Michigan, 67. Instr. chem, Michigan, 66–67; asst. prof. nat. hist, Kentucky, 67–68; *prof.* physics and chem, Bethany (W. Va.), 68–74; *physics and astron, Tufts, 74–* Mayor, Bethany, 73–74; mem. Jury of Awards, Columbian Expos, 93. Bronze medal, Centennial Expos, 76; silver medal, Paris Expos, 81; gold medal, London Expos, 82; hon. Ph.D, Michigan, 83; LL.D, Tufts, 02; Ohio Wesleyan, 05. F.A.A; fel. Am. Acad. Light and electrical phenomena; properties of the ether; the magnetic telephone; static telephone; heavy current ammeter; air space cable for telegraphic and telephonic work; wireless telegraphy.—Variability of the properties of matter.

Dolley, Dr. Charles S(umner), 1121 Spruce St, Philadelphia, Pa. *Biology, Medicine.* Elyria, O, June 16, 56. Syracuse, 78; M.D, Pennsylvania, 82; Hopkins, 83–84; Leipzig and Naples Zool. Sta, 84–85. *Prof. biol,* Swarthmore, 85–88; Pennsylvania, 85–92; *Central High Sch, Phila, 92–* Soc. Nat; Philos. Soc; Franklin Inst; Phila. Acad; Phila. Co. Med. Soc.

Dolson, Prof. Grace N(eal), Aurora-on-Cayuga, N. Y. *Philosophy.* Andover, N. Y, Feb. 13, 74. A.B, Cornell, 96, grad. student, 96–97; Leipzig and Jena, 97–98; Cornell, 98–99, Ph.D, 99. *Prof. philos, Wells, 00–* Philos. Ass. Philosophy of the nineteenth century.—Renouvier and his school.

Dominian, Leon, 1347 Court Place, Denver, Colo. *Mining, Geology.* Constantinople, Turkey, April 13, 80. A.B, Robert Col, Constantinople, 98; M.S, Liége, 01. Head, Topog. Div, Constantinople Tramway Soc, 02–03; field asst, U. S. Geol. Surv, and asst. geologist, N. Mex. Sch. Mines, 03–04; *consulting mining engineer, 04–* Deposition of metalliferous ores.

Dommerque, Franz Josef, 1395 N. Spaulding Ave, Chicago, Ills. *Engineering.* Duisburg, Germany, Nov. 26, 61. M.E, Munich, 86. Draftsman, electrician and engineer, various companies, 87–04; *sec'y and director, Kellogg Switchboard and Supply Co, Chicago, 04–* Elec. Eng; Int. Ass. Prom. Quaternions. Imaginary quantities and their relation to alternating currents.—Telephone engineering.

Donaldson, Prof. H(enry) H(erbert), Wistar Institute of Anatomy, 36th St. and Woodlawn Ave, Philadelphia, Pa. **Neurology.* Yonkers, N. Y, May 12, 57. A.B, Yale, 79; Ph.D, Hopkins, 85. Instr. biol, Hopkins, 83–84, assoc. psychol, 87–88; asst. prof. *neur,* Clark, 89–92; *prof,* Chicago, 92–06; *Wistar Inst, 06–* Dean, Ogden Sch. of Science, Chicago, 92–98. Soc. Nat; Psychol. Ass; Ass. Anat; Physiol. Soc; Neur. Ass. Anatomy of the nervous system, with special reference to growth and the changes due to age.

Doolittle, Prof. C(harles) L(eander), Upper Darby, Pa. **Astronomy, Mathematics.* Ontario, Ind, Nov. 12, 43. C.E, Michigan, 74. With U. S. Northern Boundary Surv, 73–75; *prof.* math. and astron, Lehigh, 75–95; *astron, Pennsylvania, 95–* Hon. Sc.D, Michigan, 97. F.A.A. (sec'y, A, 85, v. pres, 93); Astron. and Astrophys. Soc. (treas, 99–05); Philos. Soc; Astron. Gesell. Latitude variation; constant of aberration; stellar coordinates.

Doolittle, Prof. Eric, Flower Observatory, Upper Darby, Pa. *Astronomy.* Ontario, Ind, July 26, 70. C.E, Lehigh, 91; Chicago, 96–98. Teacher, Ulrich's Prep. Sch, Bethlehem, Pa, 91–93; instr. math, Lehigh, 93–94; Iowa, 94–96; *astron, Pennsylvania,* 98–04, *asst. prof, 04–* Asst. to city engineer, Bradford, Pa, summers, 90, 91. Astron. and Astrophys. Soc; Philos. Soc; fel. Royal Astron. Soc. Observation of double stars; practical astronomy; secular perturbations.—Secular perturbations of the four inner planets; measurement of the Hough double stars.

Doran, Prof. Edwin W(ortham), James Millikin University, Decatur, Ills. *Zoology, Entomology.* Leitchfield, Ky, April 28, 56. B.S, Lincoln; A.M, Grant, 87; Ph.D, Cumberland, 90; Illinois. Pres, Ozark Col, and Baird Col, Mo, 85–89; state entomologist, Tenn, 86–90; prof. zool. and comp. anat, Md. Agr. Col, 91–92; *teacher biol, James Millikin, 05–* Investigator animal parasites, Bur. Animal Indust, U. S. Dept. Agr. Ass. Econ. Entom. Entomology; Entozoa; synonymy of vernacular names of animals; anatomy of circulating organs of Diplocardia; compound vernacular names of insects and vertebrates.—Vocabularies of students; physiology of rotifers.

Doremus, Dr. Charles A(very), 55 W. 53d St, New York, N. Y. **Chemistry.* New York, Sept. 6, 51. A.B, Col. City of N. Y, 70; Ph.D, Heidelberg, 73. Asst. chem, toxicol. and med. juris, Bellevue Hosp. Med. Col, 75–79, adj. prof, 79–97; prof. chem. and toxicol, Med. Dept, Buffalo, 77–82; chem, Am. Vet. Col, 82, emer. prof, 92–98; asst. chem. and physics, Col. City of N. Y, 82–97, asst. prof, 97–03, acting prof, 03–04. Reporter, Vienna Expos, 73; U. S. delegate, Int. Cong. Applied Chem, Paris, 96; chairman, Am. Committee on Organization, Paris, 00, and Sect. X, Berlin, 03. Hon. M.D, Buffalo, 79. Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; assoc. mem. Elec. Eng; Medico-Legal Soc; assoc. Mass. Medico-Legal Soc; fel. N. Y. Acad; Chem. Gesell; Soc. chim. de Paris. Foods and sanitary chemistry; toxicology; physiological chemistry; fluorids; alumina; electrochemistry; hydrofluoric acid.—Bauxite; fluorids; hydrofluoric and hydrofluorsilicic acid; electrochemistry; sanitary chemistry.

Doremus, Dr. R(obert) Ogden, Union League Club, New York, N. Y. *Chemistry, Physics, Medicine.* New York, Jan. 11, 24. Columbia, 38; A.B, N. Y. Univ, 42, A.M, 45, M.D, 50. Chem. asst. to Prof. John W. Draper, Med. Dept, N. Y. Univ, 43–50; prof. chem, N. Y. Col. Pharmacy, 49; chem. and toxicol, N. Y. Med. Col, 50; nat. hist, Free Acad, 53; *chem. and toxicol, Long Isl. Hosp. Med. Col,* 60–72, *emer. prof, 72–;* prof. chem. and physics, *Col. City of N. Y,* 63–02, *emer. prof. chem, 02–* Prof. chem, toxicol. and med. juris, Bellevue Hosp. Med. Col, 61. LL.D, N. Y. Univ, 71. Fel. N. Y. Acad. Electroplating and electrotyping; patents for extinguishing fires on ships, for rendering sponges permanently elastic, and for compressed granulated gunpowder; melted paraffin as a preservative; flame-proofing of cloth and wood; liquefaction and solidification of gases for artificial cold; urea in relation to muscular exercise; disinfection by chlorin gas; bleaching by means of peroxid of hydrogen and ammonia; electricity applied to prevent accidents on railroads; toxicology.—Removal of phosphorus and sulphur from iron and steel.

Dorset, Dr. M(arion), 2429 18th St, N. W, Washington, D. C. *Bacteriology, Chemistry.* Columbia, Tenn, Dec. 14, 72. B.S, Tennessee, 93; Pennsylvania, 93–94; M.D, Columbian, 96. Asst. *Biochemic Div, U. S. Dept. Agr,* 94–01, asst. chief, 01–04, *chief, 04–* Demonstrator path, Columbian, 97–98. Soc. Bact; Chem. Soc; Pub. Health Ass. Chemistry of B. tuberculosis.—Biology of B. tuberculosis; etiology and prevention of hog cholera.

Dorsey, Dr. Geo(rge) A(mos), Field Columbian Museum, Chicago, Ills. **Anthropology.* Hebron, O, Feb. 6, 68. A.B, Denison, 88; A.B, Harvard, 90, Ph.D, 94. Instr. anthrop, Harvard, 95–96; asst. curator *anthrop, Field Columbian Mus,* 96–97, *curator, 97–; prof. comp. anat, Northwestern, 00–; asst. prof. anthrop, Chicago, 05–* Assoc. ed, 'Am. Anthropologist,' 99–; nat. delegate, Cong. Archeol. et d'Ethnol. Prehist, Paris, 00. F.A.A. (v. pres, 03); Soc. Nat; Ass. Anat; Folk-lore Soc. (pres, 02); Wash. Acad; cor. mem. Soc. d'Anthrop. de Paris. The lumbar curve; comparative sizes of heads of long bones; anthropology of American aborigines.

Dorsey, H(erbert) G(rove), 129 Dryden Road, Ithaca, N. Y. *Physics.* Kirkersville, O, April 24, 76. B.S, Denison, 97; Hopkins, 97; M.S, Denison, 98; Harvard, 00–01. Instr. *physics,* Maine, 98–00; asst. prof, Florida, 01–03; instr, Mechanics Inst, Rochester, 03–04; asst, *Cornell,* 04–05, *instr, 05–* M.A.A; assoc. mem. Physical Soc. Effects of magnetism on the elasticity of rods.—Coefficient of expansion at low temperatures.

Dorsey, Dr. N(oah) Ernest, Annapolis Junction, Md. **Physics.* Annapolis Junction, March 15, 73. A.B, Hopkins, 93, fellow, 96–97, Ph.D, 97; research fellow, Yerkes Observatory, summer, 99. Student asst. physics, Hopkins, 93–96, asst, 97–99, assoc, 99–01; asst. physicist, Bur. of Soils, U. S. Dept. Agr, 01, scientist, 02–03; *asst. physicist, Bur. Standards, 03–* F.A.A; Physical Soc. Capillarity; light; physics of soils.—Alternating current measurements.

Doubleday, Mrs. F. N. (Neltje DeGraff) ('Neltje Blanchan'), 111 E. 16th St, New York, N. Y. *Ethnology, Botany, Ornithology.* Chicago, Ills, Oct. 23, 65. Private schools. Assoc. Ornith. Union. Birds; wild flowers and their relation to insects; North American Indians.—Bird life; fertilization of flowers by wind, insects and humming-birds; handicrafts of our aborigines.

Doubt, Prof. Thomas E(aton), 651 E. 57th St, Chicago, Ills. *Physics.* Louisville, Ky, Feb. 15, 70. B.S, Nebr. Wesleyan, 92; fellow, Nebraska, 94–97, A.M, 96; fellow, Chicago, 03–04, Ph.D, 04. Instr. *physics,* Nebr. Wesleyan, 92–94; prof, Washington (Seattle), 97–02; *assoc. prof, Armour Inst, 04–* M.A.A; assoc. Elec. Eng. Absolute color equation; effect of the intensity upon the velocity of light.—Effect of the motion of the medium upon the velocity of light.

Douglas, Dr. James, Spuyten Duyvil, New York, N. Y. *Mining, Metallurgy.* Quebec, Can, Nov. 4, 37. Edinburgh; A.B, Queen's (Can.), 58. Prof. chem, Morrin Col, Que, 70–74; supt, Chem. Copper Co, Phoenixville, Pa, 74–80; *pres, Copper Queen Consolidated Mining Co. and other mining and railroad companies.* LL.D, McGill, 99. F.A.A; Min. Eng. (pres, 99–00); Am. Geog. Soc; Philos. Soc; Gt. Britain Iron and Steel Inst; British Inst. Min. and Metal; London Soc. Arts.

Douglass, A(ndrew) E(llicott), Flagstaff, Ariz. *Astronomy.* Windsor, Vt, July 5, 67. A.B, Trinity (Conn.), 89. Connected with Harvard Col. Observatory, 89–94; first asst, *Lowell Observatory,* 94–01, *astronomer, 01–* Probate Judge, Coconino Co, Ariz, 01–; instr, Northern Ariz. Nor. Sch. Am. Alpine Club; fel. Royal Astron. Soc. Planet Mars; 'Gegenschein' and zodiacal light; observatory sites and atmospheric currents; planetophysics.—Id; photography of heat currents.

Dowling, Prof. L(innaeus) W(ayland), University Heights, Madison, Wis. *Mathematics.* Medina, Mich, Dec. 7, 67. Adrian, 89–90; Ph.D, Clark, 95. Instr. *math, Wisconsin,* 95–97, *asst. prof, 98–* Math. Soc. Geometry; forms of plane quintic curves; higher plane curves; conformal representation of plane triangles upon the upper half-plane.—Involutions in the plane.

Downey, Prof. John F(lorin), 825 Fifth St, S. E, Minneapolis, Minn. *Mathematics.* Hiramsburg, O, Jan. 10, 46. B.S, Hillsdale, 70; Michigan, 72–73; C.E, Pa. State, 77; A.M, Hillsdale, 78; Edinburgh and Göttingen, 01–02. Instr. math, Hillsdale, 70–71; principal, High Sch, Cassopolis, Mich, 71–72; *prof. math,* Pa. State, 73–80; *Minnesota, 80–, dean, Col. Sci, Lit. and Arts, 93–* Lecturer, State Teachers' Institute, and teacher, State Summer Schools, Minn. Math. Soc. Mathematics.—The shortening of various algebraic operations.

Downing, Dr. E(lliott) R(owland), 1216 Presque Isle Ave, Marquette, Mich. *Zoology.* Boston, Mass, Nov. 21, 68. B.S, Albion, 89, M.S, 94; Ph.D, Chicago, 01. Instr. science, Beloit, 91–96; asst. zool, Chicago, 00–01; *prof. biol, Northern State Nor. Sch, Mich, 01–* M.A.A. Spermatogenesis of Hydra and Arenicola.—Spermatogenesis of Arenicola; muscle movement in Pelecypoda.

Downs, Dr. Edgar S(elah), 814 Franklin Ave, Swissvale Station, Pittsburg, Pa. *Experimental physics.* Southington, Conn, Sept. 25, 74. A.B, Yale, 98, Sloane fellow, 99–01, Ph.D, 01. Asst. physics, Yale, 99–01; asst. ed, 'N. Y. Elec. Rev,' 01–02; instr. science, De Lancey Sch, Phila, 02; Thurston Prep. Sch, 02–03; eng. apprentice, Westinghouse Elec. and Mfg. Co, 03–05. M.A.A. Spectrum analysis.

Drake, Prof. N(oah) F(ields), Tientsin, China. *Geology.* Summers, Ark, Jan. 30, 64. C.E, Arkansas, 88; A.M, Stanford, 95, Ph.D, 97. Geologist, Ark. Geol. Surv, 87; Tex. Geol. Surv, 89–93; asst. geologist, U. S. Geol. Surv, 97; prof. geol. and mining, Imperial Tientsin Univ, 98–00; consulting geologist, Am.-China Development Co, 02–04; *prof. geol. and mining, Pei Yang Univ, 05–* Asst. topographer, U. S. Geol. Surv, 94; engineer, Pub. Works Dept, Tientsin Provisional Govt, 00–01. Geol. Soc; Min. Eng. Geology.—Chinese coal-fields; wind-blown materials in North China.

Draper, Dr. Daniel, Hastings-on-Hudson, N. Y. *Meteorology, Mechanics.* New York, N. Y, April 2, 41. Grammar sch. and private instruction. Asst. physiol. and chem. to Prof. J. W. Draper; *director, N. Y. Meteorol. Observatory, 68–* Apprentice, Novelty Iron Works, N. Y, 60; asst. port engineer, Star Line to New Orleans, La, 65. Hon. Ph.D, N. Y. Univ, 80. F.A.A; Social Sci. Ass; Philos. Soc; Nat. Geog. Soc. Mechanical meteorology.

Dresser, John A(lexander), 145 Rose de Lima St, Montreal, Can. *Geology, Petrography.* Richmond, Que, June 27, 66. A.B, McGill, 93; Harvard, 94–95; A.M, McGill, 97. *Principal,* St. Francis Col, Richmond, Que, 95–03; *Prince Albert Sch, Montreal, 03–* Assoc. ed, 'Jour. Geog'; lecturer, Prov. Agr. Col, Compton, Que, 02–03. Can. Min. Inst. Geology; petrography; petrographic studies in the Monteregian Hills,

Quebec.—Petrography of the copper-bearing rocks of southeastern Quebec.

Dresslar, Prof. F(letcher) B(ascom), 2327 Le Conte Ave, Berkeley, Cal. *Education, Psychology.* Banta, Ind, Sept. 21, 58. A.B, Indiana, 89, A.M, 92; Ph.D, Clark, 94. Principal, High Sch, Princeton, Ind, 89–90; supt. schools, Princeton, 90–91; prof. *educ,* Los Angeles State Nor. Sch, 94–97; *assoc. prof, California, 97–* Acting head, Dept. Educ, California, 01–02; mem. Cal. State Board of Educ, 01–02, 05– Cal. Council Educ; Ind. Sci. Ass. Educational psychology; school hygiene; psychology of touch; child-study; pseudochromesthesia.—School hygiene; commercial geography for teachers; education and superstition.

Drew, Prin. D(avid) A(bbott), 830 Eighth Ave, Baraboo, Wis. *Astronomy.* Proctorsville, Vt, May 9, 65. B.S, B.L, Lawrence, 87, A.B, 88, A.M, 90; Chicago, 94–96, fellow, 95–96. Asst, Lowell Observatory, 96–98; *principal schools, Baraboo, Wis.* Astron. and Astrophys. Soc. Mars; diameter and markings of Venus and Mercury; satellite of Neptune.

Drew, Prof. Gilman A(rthur), Orono, Me. **Zoology.* Newton, Ia, Nov. 15, 68. B.S, Iowa, 90; fellow, Hopkins, 97–98, Ph.D, 98, Adam T. Bruce fellow, 98. Asst. zool, Hopkins, 98–00; *prof. biol, Maine, 00–* Instr. in charge zool, Woods Hole, 01– M.A.A; Soc. Nat; Soc. Zool. (sec'y and treas, 03–04). Anatomy, habits and embryology of Yoldia limatula; the life history of Nucula delphinodonta.—Structure, development and habits of the northern scallop.

Dreyer, Prof. Geo(rge) P(eter), 1872 Gladys Ave, Chicago, Ills. **Physiology.* Baltimore, Md, Sept. 22, 66. Baltimore City Col, 79–84; A.B, Hopkins, 87, fellow, 88–89, Ph.D, 90; Col. Physicians and Surg, Baltimore, 91–92. Assoc. prof. *physiol,* Hopkins, 90–00; *prof, Med. Dept, Illinois, 00–* Physiol. Soc. Blood proteids; differential respiration; internal secretion of adrenals.

Dreyfus, Dr. W(olfram) E, 12 Old Slip, New York, N. Y. *Chemistry.* Baden, Germany, Dec. 21, 64. Grad, Humanist. Gymnasium, Germany, 84; Ph.D, Munich, 00. Instr. chem, Columbia, 00–02; chemist, Dept. Pub. Charities, N. Y. City, 02–04; *consulting chemist, 04–* Chem. Soc; Chem. Gesell; Chem. Verein. Tragacanth; relation of chemical constitution to the physiological action of modern anesthetics; disinfectants and antiseptics.—Relation of chemical constitution to physiological action of modern remedies.

Drisko, Prof. William J(ohnson), Massachusetts Institute of Technology, Boston, Mass. *Experimental physics.* Addison, Me, Sept. 8, 66. B.S, Mass. Inst. Tech, 95. Asst. *physics,* Mass. Inst. Tech, 95–96, instr, 96–99; prof, Colby, 99; instr, *Mass. Inst. Tech,* 01–05, *asst. prof, 05–*

Drummond, Dr. I(saac) W(yman), 436 W. 22d St, New York, N. Y. *Chemistry.* Boston, Mass, June 19, 55. E.M, Columbia, 78, Ph.D, 79. *Chemist and mfg. director, F. W. Devoe and C. T. Raynolds Co, New York, 93–* M.A.A; Chem. Soc; Soc. Chem. Indust. Colors; pigments; dyes.

Dryer, Prof. C(harles) R(edway), 29 Gilbert Ave, Terre Haute, Ind. *Geography, Geology.* Victor, N. Y, Aug. 31, 50. Michigan, 70–71; A.B, Hamilton, 71; M.D, Buffalo, 76. Teacher science, High Sch, Fort Wayne, Ind, 77–90; *prof.* chem. and toxicol, Fort Wayne Col. of Med, 78–93; *geog, Ind. State Nor. Sch, 93–* Asst, Ind. Geol. Surv, 87–93; chemist, Fort Wayne Elec. Co, 90–93. F.A.A; Geol. Soc; Geog. Ass; fel. Ind. Acad. Glacial geology; physiography; organization and methods of teaching geography.—Geology, physiography and general geography of Indiana; geology and physiography of Finger Lake region, New York.

Duane, Prof. William, University of Colorado, Boulder, Colo. **Physics.* Philadelphia, Pa, Feb. 17, 72. A.B, Pennsylvania, 92; A.B, Harvard, 93, A.M, 95; Ph.D, Berlin, 97. Asst. *physics,* Harvard, 93–95; *prof, Colorado, 98–* F.A.A; Physical Soc. Electricity; velocity of chemical reactions; short electrical waves; differential telephone; radium emanation and induced activity.—Hysteresis.

DuBois, Prof. A(ugustus) J(ay), New Haven, Conn. *Civil engineering, Mechanics.* Newton Falls, O, April 25, 49. Ph.B, Yale, 69, Ph.D, 72; Mining Acad, Freiberg, 72–73. *Prof.* civil and mech. eng, Lehigh, 75–77; mech. eng, *Sheffield Sci. Sch, Yale,* 77–83, *civil eng, 83–* F.A.A; Civil Eng; Mech. Eng; Min. Eng; Conn. Acad. Bridge construction; engineering mechanics.—Steel and masonry structures.

Dubois, Prof. Howard W(eidener), 4526 Regent St, Philadelphia, Pa. *Astronomy, Astrophysics.* Philadelphia, Sept. 16, 68. Lehigh. *Prof.* applied math, *Phila. Observatory,* 95–00, *astron, 00–* M.A.A; Astron. and Astrophys. Soc; Min. Eng; Franklin Inst; Phila. Photog. Club; Phila. Geog. Club (pres.); Phila. Eng. Club; Lake Superior Inst. Min. Eng. Astronomical photography.—Radiation from the various organic substances that affect photographic plates.

Dubois, N(orman) A(rmin), New York University, University Heights, New York, N. Y. *Chemistry, Physics.* Fall River, Mass, Dec. 25, 77. B.S, Mass. Inst. Tech, 01; A.M, Brown, 03. *Instr. chem,* Brown, 01–03; Syracuse, 03–04; *N. Y. Univ, 04–* Constitution of ferric chlorid in aqueous solution.—Some condensation products of phenyl naphthalene and of dicarborylic anhydrid.

DuBois, Patterson, 401 S. 40th St, Philadelphia, Pa. *Anthropology, Education, Metallurgy.* Philadelphia, Oct. 10, 47. Pub. schools and private instruction. Asst, Assay Dept, U. S. Mint, Phila, 67–81, asst. assayer, 81–86; managing ed, 'Sunday School Times', 86–00. Mem. Advisory Committee on Disputed Spellings and Pronunciations, 'Standard Dict'; editor and journalist; critic and adviser in book publication. F.A.A; Philos. Soc. (sec'y, curator and

mem. Council); Archeol. and Numis. Soc; Am. Dialect Soc; Pa. Hist. Soc; London Soc. Arts. Child-study; educational psychology; improved apparatus for humid assay of silver.

DuBois, Dr. W(illiam) E(dward) B(urghardt), Atlanta University, Atlanta, Ga. *History, Social science.* Great Barrington, Mass, Feb. 23, 68. A.B, Fisk, 88; A.B, Harvard, 90, fellow, 90–92, A.M, 91; Berlin, 92–94; Ph.D, Harvard, 95. Prof. classics, Wilberforce, 94–96; asst. sociol, Pennsylvania, 96–97; *prof. econ. and hist, Atlanta, 97–* F.A.A; Econ. Ass; Am. Negro Acad. History and condition of the American negro.—The negro artisan; condition of the negro.

Dudley, Dr. Cha(rle)s B(enjamin), P. O. Drawer 156, Altoona, Pa. **Chemistry, General technology.* Oxford, N. Y, July 14, 42. A.B, Yale, 71, Ph.D, 74. Instr. physics, Pennsylvania, 74–75; *chemist, Pa. R. R. Co, 75–* F.A.A. (sec'y, D, 82); Chem. Soc. (pres, 96–97); Mech. Eng; Min. Eng; Civil Eng; Soc. Testing Materials (pres, 02, 04); Philos. Soc; Wash. Acad; London Chem. Soc; Gt. Britain Iron and Steel Inst; Chem. Gesell; Soc. chim. de Paris. Wear of steel rails; car lighting, heating, disinfection and ventilation; methods for rapid examination of commercial products.

Dudley, Dr. P(limmon) H(enry), 80 Pine St, New York, N. Y. *Civil engineering, Metallurgy.* Freedom, O, May 21, 43. Western Reserve Eclectic Inst. City engineer, Akron, O, 68–72; chief engineer, Valley R. R. of Ohio, 72–75; expert, Eastern Railroad Ass, 76–79; *consulting engineer tracks and rails, N. Y. C. and H. R. R. R. Co, 80–* Reporter, Int. Railway Cong, Paris, 00; Washington, 05. Elliott Cresson gold medal, 77; gold and silver medals, Chicago R. R. Expos, 83; hon. Ph.D, Hiram, 97. Min. Eng; Am. Acad; Forestry Ass; Eng. Club; fel. N. Y. Acad. (pres, Sect. Physics and Astron.); N. Y. Micros. Soc. (pres.); Int. Ass. Testing Materials; London Soc. Arts. Stability of railroad tracks; the strains in rails and their distribution; invented 'dynagraph' and 'track indicator'; designed first five-inch steel rail used in United States, high carbon rails and six-inch 100 pound rails; decay of wood due to fungi.—The principles pertaining to American railroads; metals for rails and tires for high speed trains.

Dudley, Prof. W(illia)m L(ofland), Vanderbilt University, Nashville, Tenn. **Chemistry.* Covington, Ky, April 16, 59. B.S, Cincinnati, 80; M.D, Miami Med. Col, 85. *Prof.* chem. and toxicol, Miami Med. Col, 80–86; *chem, Vanderbilt, 86–, dean, Med. Dept, 95–* Mem. Board of Commissioners, Cincinnati Indust. Expos, 81–85; director of affairs, Tenn. Centennial Expos, 97. Int. Cong. Arts and Science, St. Louis, 04 (sec'y, Sect. Inorg. Chem.). F.A.A. (sec'y, C, 88, v. pres, 89); Chem. Soc. (pres, Cincinnati Sect. and mem. Council, 98); Soc. Chem. Indust; Electrochem. Soc; Min. Eng; Eng. Ass. of South (pres, 95); fel. London Chem. Soc; Chem. Gesell. Inorganic chemistry.

Dudley, Prof. William R(ussel), Stanford University, Cal. **Botany.* Guilford, Conn, March 1, 49. B.S, Cornell, 74, M.S, 76; Strasburg and Berlin, 87–88. Instr. *bot,* Cornell, 73–76, asst. prof, 76–92; *prof, Stanford, 93–* Commissioner and sec'y, Cal. Redwood Park Commission, 01–05. F.A.A; Soc. Nat; Forestry Ass. (v. pres, 01–05); Cal. Acad. (ed, bot. papers, 97–00); Sierra Club (assoc. ed, 'Bul,' 97–); Wash. Biol. Soc; etc. Fungi of central New York; geographical distribution of plants of Cayuga Lake Basin, New York, and Lackawanna and Wyoming Basin, Pennsylvania; higher plants of California.—Plants of central California, in relation to distribution and descent; forests of California.

Duerden, Dr. J(ames) E(dwin), Rhodes University College, Grahamstown, Cape Colony, S. Afr. **Biology.* Burnley, England, April 7, 69. Associate, Royal Col. of Science, London, 86–89; London Univ, 87–89; Ph.D, Hopkins, 00, Bruce fellow, 01–02. Demonstrator, Royal Col. Science, Dublin, 89–94; curator, Mus, Inst. of Jamaica, 95–01; acting prof. biol, North Carolina, 02; acting asst. prof. *zool,* Michigan, 03–05; *prof, Rhodes Univ. Col, 05–* Lecturer on fisheries, Dublin; hon. curator invert. zool, Am. Mus. Nat. Hist, N. Y, 02– F.A.A; Soc. Nat; Soc. Zool; Mich. Acad. West Indian anthropology and fisheries; morphology of recent and fossil corals; Actiniaria.—Morphology of recent and fossil corals; actinians and corals of Jamaica and the Hawaiian Islands.

Duff, Prof. A(lexander) Wilmer, 2 Harvard Place, Worcester, Mass. **Physics.* St. John, N. B, May 23, 64. A.B, New Brunswick, 84, and London, 87; Berlin, 88; A.M, Edinburgh, 88, B.S, 93, Sc.D, 01. *Prof. physics,* Madras, India, 89–90; New Brunswick, 90–93; Purdue, 93–99; *Worcester, 99–* Physical Soc; fel. Am. Acad; fel. Ind. Acad. Viscosity; acoustics; tidal phenomena.—Viscosity and rigidity of liquids.

Duggar, Prof. B(enjamin) M(inge), Columbia, Mo. **Plant physiology and pathology.* Gallion, Ala, Sept. 1, 72. Alabama, 87–89; B.S, Miss. Agr. and Mech. Col, 91; M.S, Ala. Polytech, 92; A.B, Harvard, 94, A.M, 95; Ph.D, Cornell, 98; Germany and Italy, 99–00. Asst. director, Agr. Exp. Sta, Uniontown, Ala, 92–93; asst. bot, Radcliffe, 94–95; asst. botanist, State Lab. Nat. Hist, Illinois, 95–96; instr. plant physiol, Cornell, and asst. crypt. botanist, Agr. Exp. Sta, 96–00, asst. prof, 00–01; physiologist, Bur. Plant Indust, U. S. Dept. Agr, 01–02; *prof. bot, Missouri, 02–* Int. Cong. Arts and Science, St. Louis, 04 (speaker, plant physiol.). F.A.A; Bot. Soc; Soc. Plant Morph. and Physiol; Mycol. Soc; Soc. Prom. Agr. Sci; Bot. Gesell. Diseases of plants; plant physiology.—Nutrition and artificial culture of fleshy fungi; effect of nutrition on resistance to toxic agents; nature of varietal resistance to disease; diseases

of alfalfa, cotton and apples; diseases caused by the sterile fungus Rhizoctonia.

Dugmore, Arthur (Venner Vaux) Radclyffe, Newfoundland, N. J. *Ornithology.* England, Dec. 25, 70. Elizabeth Col, Guernsey and Turrell's Sch, Smyrna, 79–81. Assoc. Ornith. Union. Breeding habits of eastern North American birds; habits of the beaver.—Bird life; conditions affecting plant life.

Duke, Prof. Frank W(illiamson), Hollins, Va. *Mathematics.* Richmond, Va, 71. A.B, Richmond, 92; Chicago, 97–99. *Prof. math,* Richmond, 99–00; *Hollins Inst, 00–* M.A.A; Math. Soc.

Dumble, E(dwin) T(heodore), 1306 Main St, Houston, Tex. *Geology.* Madison, Ind, March 28, 52. Washington and Lee, 66–68, 72–74. State geologist, Tex, 88–96; *consulting geologist, Southern Pacific R. R. Co, 97–* F.A.A; Geol. Soc; Min. Eng; Tex. Acad. (pres, 93); Stockholm Geol. Soc. Stratigraphic and economic geology.—Coal deposits of Pacific slope; Stockwerke ore deposits; oil deposits of Texas and Louisiana.

Duncan, Prof. G(eorge) M(artin), 299 Edwards St, New Haven, Conn. *Philosophy.* Haledon, N. J, Nov. 26, 57. A.B, N. Y. Univ, 81, A.M, 82; B.D, Yale, 84, fellow, 84–85; Leipzig, Heidelberg and Berlin, 85–87; Paris, 87–88. Instr. *philos, Yale,* 88–91, asst. prof, 91–94, *prof, 94–* LL.D, N. Y. Univ, 01. F.A.A; Philos. Ass; Psychol. Ass. Epistemology; history of philosophy.—Critical history of epistemological speculations from Descartes to Kant.

Duncan, Dr. J(ohn) T(homas), 165 Bloor St, E, Toronto, Can. *Medicine.* Northumberland, England, March 30, 43. Cornell, 69–70; V.S, Ont. Vet. Col, 72; M.B, Toronto, 82. *Prof. anat, Ont. Med. Col. for Women, 83–, diseases of eye and ear, 04–; anat, Ont. Vet. Col, 92–* Hon. M.D, C.M, Trinity (Can.). Ass. Anat; Ont. Med. Ass; hon. assoc. Royal Col. Vet. Surg; British Med. Ass. Anatomy; ophthalmology.

Duncan, Dr. Louis, 56 Pine St, New York, N. Y. **Electrical engineering.* Washington, D. C, March 25, 62. Grad, U. S. Naval Acad, 80; Ph.D, Hopkins, 85. Assoc. prof. applied elec, Hopkins, 87–99; *head, Dept. Elec. Eng, Mass. Inst. Tech, 02–* Elec. Eng. (pres, 95–96); Philos. Soc; hon. mem. Franklin Inst; Soc. math. de France; Soc. de Physique de France. Applied electricity.

Duncanson, Prof. H(enry) B(ruce), Peru, Nebr. *Biology.* Memphis, Mo, Feb. 4, 60. B.S, Nebraska, 90, A.M, 94. First asst, Exp. Sta, Nebraska, 90–92; *prof. biol, Nebr. State Nor. Sch, 92–* M.A.A; Micros. Soc; Nebr. Acad. (v. pres, 02, pres, 04). Ants; parasites in frogs; Nebraska soils.

Dunham, Dr. Edward K(ellogg), 35 E. 68th St, New York, N. Y. **Pathology.* Newburgh, N. Y, Sept. 1, 60. Ph.B, Columbia, 81; M.D, Harvard, 86. Bacteriologist, Mass. State Board of Health, 87–88; instr. histol, *Univ. and Bellevue Hosp. Med. Col,* 88–91, *prof.* path, bacter. and hygiene, 91–99, *path, 99–* Pathologist, Carney Hosp, Boston, 87–88; J. Hood-Wright, Trinity and Gen. Mem. Hospitals, New York. F.A.A; Ass. Path. and Bact; Am. Physicians; Soc. Bact; Soc. Exp. Biol. and Med; Chem. Soc; N. Y. Path. Soc; N. Y. Acad; N. Y. Acad. Med. Spirillum of cholera; bacillus aerogenes capsulatus; theories of immunity; normal and morbid histology; etc.—Relations of physical properties of nutrient gelatin and its uses for plate cultures; osmotic pressures of morbid fluids.

Dunkel, Dr. Otto, 509 E. Clay St, Richmond, Va. *Mathematics.* Richmond, May 25, 69. M.E, Virginia, 96, A.B, A.M, 98; A.M, Harvard, 99, Shattuck scholar, 00–02, Ph.D, 02; Göttingen, 04– Asst. astron, Virginia, 96–97; instr. math, Wesleyan, 02–04. Math. Soc. Applications of Green's theorem in one dimension; regular singular points of a system of homogeneous linear differential equations of the first order.

Dunlap, Dr. Frederick L(evy), 715 Monroe St, Ann Arbor, Mich. *Chemistry.* Chillicothe, O, May 16, 70. Ohio State, 88–89; B.S, Michigan, 92; Sc.D, Harvard, 95; Yale, 96. *Instr.* indust. chem, Worcester, 96–00; inorg. chem, *Michigan,* 00–01, *anal. chem, 01–* Instr, Summer Sch, Harvard, 93–95. Chem. Soc; Chem. Gesell. Oils, fats and waxes; organic chemistry.—Products formed during the boiling or oxidation of linseed oil.

Dunlap, Dr. Knight, 2727 Bancroft Way, Berkeley, Cal. *Psychology.* Diamond Spring, Cal, Nov. 21, 75. Ph.B, California, 99, M.L, 00, Le Conte fellow, 00–01; A.M, Harvard, 01, James Walker fellow, 01–02, Ph.D, 03. Asst. *psychol, California,* 02–04, *instr, 04–* Effects of subliminal stimulations; time-perception. — Experimental analysis of geometrical illusions; determining conditions of reading-time.

Dunn, Gano S(illick), Ampere, N. J. **Electrical engineering.* New York, N. Y, Oct. 18, 70. B.S, Col. City of N. Y, 89; E.E, Columbia, 91; M.S, Col. City of N. Y, 97. Operator, West. Union Tel. Co, 86–91; engineer, *Crocker-Wheeler Co, 91–95, v. pres. and chief engineer, 95–* M.A.A; Elec. Eng. (v. pres, 01–03, 05–); Franklin Inst; N. Y. Elec. Soc. (pres, 98–00); N. Y. Zool. Soc. Dynamo and motor design; commutation of direct current machines.

Dunne, J(ohn) A(ugustine), 440 Massachusetts Ave, Cambridge, Mass. *Astronomy.* Brighton, Mass, July 21, 71. High Sch. and private instruction. *Asst, Harvard Col. Observatory, 88–* Astron. and Astrophys. Soc. Meridian circle observations and reduction of stars in zone — 10° to —14°.—Meridian circle observations of Nova Persei No. 2 and of the planet Eros.

Dunnington, Prof. F(rancis) P(erry), University of Virginia, Charlottesville, Va. **Chemistry.* Baltimore, Md, March 3, 51. B.S, Virginia, 71, C.E, M.E, 72. Adj. prof. *anal. chem, Virginia,* 73–84, *prof, 84–* F.A.A. (sec'y, C, 85); Chem. Soc; British Ass; London Chem. Soc.

Universal occurrence of titanic acid in soils; inorganic chemistry; synthesis; analysis of unusual products and rare minerals; analysis of ashes of weeds.

Dunstan, Prof. A(rthur) S(ain)t C(harles), Auburn, Ala. *Electrical engineering.* Fredericksburg, Va, March 25, 71. B.S, Ala. Polytech, 89, M.E, 90, C.E, 91; Hopkins; Chicago. Assoc. prof. *elec. eng,* Kansas, 94–99; *prof, Ala. Polytech, 99–* Consulting elec. engineer for various companies and cities. F.A.A; Elec. Eng; Astron. and Astrophys. Soc. Engineering; design and construction.

duPont, Francis G(urney), Wilmington, Del. *Chemistry, Physics, Mechanics.* Near Wilmington, May 27, 50. Pennsylvania, 70. V. pres, manager and partner, E. I. duPont de Nemours and Co, 71–90. F.A.A; Chem. Soc; Soc. Chem. Indust; Franklin Inst; Pacific Astron. Soc; N. Y. Chemists Club. Chemistry of explosives.

Durand, Dr. E(lias) J(udah), 120 Oak Ave, Ithaca, N. Y. **Mycology.* Canandaigua, N. Y, March 20, 70. A.B, Cornell, 93, Sc.D, 95. Asst. bot, *Cornell,* and asst. crypt. botanist, Agr. Exp. Sta, 95–96, *instr. bot, 96–, asst. curator, Herbarium, 98–* F.A.A; Soc. Plant Morph. and Physiol; Mycol. Soc. Discomycetous fungi; diseases of plants.—Structure and classification of Discomycetes; embryology of Taxus.

Durand, Prof. W(illiam) F(rederick), Stanford University, Cal. *Marine engineering, Naval architecture.* Bethany, Conn, March 5, 59. Grad, U. S. Naval Acad, 80; Ph.D, Lafayette, 88. Engineer corps, U. S. N, 80–87; prof. mech. and supt, Mech. Dept, Mich. Agr. Col, 87–91; prof. marine eng, Cornell, 91–04, acting director, Sibley Col, 03–04; *prof. mech. eng, Stanford, 04–* Special duty, Lafayette, 83–85; advisory ed, 'Marine Eng,' 01– Gold medal, Naval Eng, 00. F.A.A; Mech. Eng; Eng. Educ; Naval Eng; Naval Archit. and Marine Eng; Franklin Inst; Soc. Technique maritime. Resistance and propulsion of ships; hydrodynamics.

Durell, Prof. Fletcher, Lawrenceville, N. J. *Mathematics.* Clarksburg, N. J, Dec. 17, 59. A.B, Princeton, 79, A.M, 82, Ph.D, 87. Master math, Pennington Sem, 79–81, 82–83; prof. math. and astron, Dickinson, 83–95; *master math, Lawrenceville Sch, 95–* Math. Soc. Mathematics.

Durfee, Prof. W(illiam) P(itt), 639 Main St, Geneva, N. Y. *Mathematics.* Livonia, Mich, Feb. 5, 55. A.B, Michigan, 76; Ph.D, Hopkins, 83. Instr. *math,* Univ. Mound Col, San Francisco, 76–77; Berkeley Gymnasium, Cal, 77–81; *prof, Hobart, 84–, dean, 88–* F.A.A; Math. Soc. Symmetric functions.

Durkee, Prof. Frank W(illiams), Tufts College, Mass. *Chemistry.* North Tunbridge, Vt, Oct. 5, 61. A.B, Tufts, 88, A.M, 89. Instr. chem, *Tufts,* 89–96, asst. prof, 96–97, *prof. inorg. chem, 97–* Chem. Soc; Soc. Chem. Indust. Oxidation by electrolysis of sodium sulphid and hydrosulphid to the sulphate; action of water of the Hub coal mine upon cast iron.—The production of zinc by electrolysis.

Dutcher, William, 525 Manhattan Ave, New York, N. Y. *Ornithology.* Stelton, N. J, Jan. 20, 46. Pub. schools. Pres, Nat. Ass. Audubon Societies. Fel. Ornith. Union; fel. N. Y. Acad; Wash. Biol. Soc; N. Y. Linnean Soc. Life history, distribution, economic value and protection of birds.

Dutton, Major C(larence) E(dward), U. S. A, Englewood, N. J. **Geology, Physics, Political economy.* Wallingford, Conn, May 15, 41. A.B, Yale, 60. First lieut. and capt, 21st Conn. Vols, Civil War, 62–63; second lieut, *Ordnance Corps, U. S. A,* 63–67, first lieut, 67–73, capt, 73–90, *major, 90–* Detailed for duty with U. S. Geol. Surv. Nat. Acad; Philos. Soc; Am. Geog. Soc; Acad. Polit. and Social Sci; Wash. Philos. Soc. Volcanoes; earthquakes.—Economics.

Duvel, Dr. J(oseph) W(illiam) T(ell), Seed Laboratory, U. S. Department of Agriculture, Washington, D. C. *Botany.* Wapakoneta, O, Nov. 16, 73. B.S, Ohio State, 97; fellow, Michigan, 99–02, Sc.D, 02. Asst. botanist, Ohio Agr. Exp. Sta, 98–99; *asst, Seed Lab, U. S. Dept. Agr, 02–* F.A.A; Ohio Acad; Wash. Bot. Soc; Wash. Biol. Soc; Int. Ass. Bot. Conditions influencing vitality of seeds; respiration in dry seeds; effect of gases on vitality.

Dwight, Dr. Jonathan, Jr, 2 E. 34th St, New York, N. Y. *Zoology.* New York, Dec. 8, 58. A.B, Harvard, 80; M.D, Columbia, 93. *Practising physician, 93–* M.A.A; fel. Ornith. Union; fel. Am. Geog. Soc; fel. N. Y. Acad; N. Y. Linnean Soc. Ornithology.

Dwight, Prof. Thomas, Harvard Medical School, Boston, Mass. **Anatomy.* Boston, Oct. 13, 43. A.B, Harvard, 66, M.D, 67. Instr. comp. anat, Harvard, 72; lecturer and later prof. anat, Med. Sch. of Maine, 72–76; instr. histol, *Harvard Med. Sch,* 74–80, topog. anat, 80–83, *Parkman prof. anat, 83–* Shattuck prize, Mass. Med. Soc; LL.D, Georgetown. F.A.A; Soc. Nat; Ass. Anat. (pres.); Am. Acad; Boston Soc. Med. Sci. Anatomy, chiefly human; variations and anomalies.—Variations in bones of the wrist, ankle and spine; method of recognizing sex from certain long bones.

Dwight, Prof. William B(uck), Vassar College, Poughkeepsie, N. Y. *Geology.* Constantinople, Turkey, May 22, 33. A.B, Yale, 54; grad, Union Theol. Sem, 57; Ph.B, Yale, 59. Principal, Englewood Female Inst, N. J, 59–65; Officers' Family Sch, West Point, 67–70; assoc. principal, and instr. sciences, State Nor. Sch, New Britain, Conn, 70–78; *prof. geol. and curator, Mus, Vassar, 78–* Ed, 'Conn. Sch. Jour,' 72–75; head, Dept. Zool, Marthas Vineyard Summer Inst, 78–90; examiner geol, N. Y. State, 94–95; ed, Dept. Geol, 'Standard Dict'. Bronze medal, Paris Expos, 00. Int. Geol. Cong. F.A.A; Soc. Nat; Geol. Soc; Nat. Geog. Soc; Social Sci. Ass; assoc. mem. Nat. Inst. of Arts,

Sci. and Letters; cor. mem. Brooklyn Inst. Cambrian and Ordovician paleontology.—Cambrian and Ordovician fossils in Dutchess and Columbia Counties, N. Y.

Dyar, Dr. Harrison G(ray), U. S. National Museum, Washington, D. C. **Biology, Entomology.* New York, N. Y, Feb. 14, 66. B.S, Mass. Inst. Tech, 89; A.M, Columbia, 94, Ph.D, 95. Asst. bacter, Col. Physicians and Surg, Columbia, 95–97; *custodian of Lepidoptera, U. S. Nat. Mus, 97–* F.A.A; Entom. Soc; Acad. Polit. and Social Sci; Wash. Acad; fel. N. Y. Acad; Boston Soc. Nat. Hist; Am. entom. societies. Larvae of insects, especially of Lepidoptera and mosquitoes.

Dyche, Prof. L(ewis) L(indsay), 1611 Massachusetts St, Lawrence, Kas. *Zoology.* Berkeley Springs, W. Va, March 20, 57. A.B, B.S, Kansas, 84, A.M, 86, M.S, 88. *Prof. zool, Kansas, and curator birds and mammals, Univ. Mus, 89–* Medal, Columbian Expos, 93. F.A.A; assoc. Ornith. Union; life mem. Kas. Acad; Wash. Biol. Soc. Living North American mammals and birds; methods for bird and mammal work for museums.—The life history of the opossum and other North American mammals; Mendel's law and experiments with poultry.

E

Eakle, Dr. Arthur S(tarr), 1518 Euclid Ave, Berkeley, Cal. *Mineralogy, Petrography.* Washington, D. C, July 27, 62. B.S, Cornell, 92; Ph.D, Munich, 96. *Instr. miner,* Cornell, 92–94; Harvard, 98–01; *California, 01–* Geol. Soc. Mineralogy; petrography.—Minerals of California.

Earhart, Dr. Rob(er)t F(rancis), Ohio State University, Columbus, O. *Experimental physics.* Toledo, Ia, Feb. 2, 73. B.S, Northwestern, 93; Hopkins, 97–98; Chicago, 98–99, fellow, 99–00, Ph.D, 00. Electrician, Peoples Power Co, Moline, Ills, 93–97; instr. *physics,* Mich. Mil. Acad, 00–01; Rose, 01–03; *asst. prof, Ohio State, 03–* M.A.A; Physical Soc. Sparking distances.

Earle, Charles, Mt. Vernon, N. Y. *Zoology.* New York, N. Y, Oct. 28, 59. B.S, Princeton, 87; Jena, 88; Munich, 89; Paris, 95. Asst. vert. paleont, Am. Mus. Nat. Hist, 91–95. Vertebrate paleontology; vertebrate anatomy.—Morphology and evolution of the primates.

Earle, Prof. F(ranklin) S(umner), Santiago de las Vegas, Cuba. **Botany, Horticulture.* Grundy Co, Ills, Sept. 4, 56. Illinois. Asst. mycol, Illinois, 86; supt, Branch of Miss. Agr. Exp. Sta, 92–95; asst. pathologist, U. S. Dept. Agr, 95; assoc. prof. hort, Ala. Polytech, and horticulturist, Ala. Agr. Exp. Sta, 96, prof. biol. and hort, Ala. Polytech, and biologist and horticulturist, Ala. Agr. Exp. Sta, 96–01; asst. curator, N. Y. Bot. Garden, 01–04; *director, Estacion Central Agron. de Cuba, 04–* Hon. A.M, Ala. Polytech, 02. F.A.A; Bot. Soc; Mycol. Soc; Torrey Bot. Club. Systematic mycology; horticulture of southern United States.—Agaricaceae; tropical agriculture.

Earle, Dr. Richard B(lair), 42 Walker Building, Boylston St, Boston, Mass. *Chemistry.* Worcester, Mass, May 29, 76. B.S, Worcester, 97; M.S, Harvard, 99, Sc.D, 02. Private asst, Worcester, 97–98; research asst. *org. chem,* Chicago, 02–03; asst, *Mass. Inst. Tech,* 03–04, *instr, 04–* Chem. Soc; Chem. Gesell. Organic chemistry.

Eastman, Dr. Charles R(ochester), 354 Brookline St, Cambridge, Mass. **Geology, Paleontology.* Cedar Rapids, Ia, June 5, 68. A.B, Harvard, 90, A.M, 91; Hopkins, 92; Ph.D, Munich, 94. *Curator in charge, Dept. Vert. Paleont, Mus. Comp. Zool, Harvard, 94–;* instr, Harvard and Radcliffe, 94–97. Asst. geologist, New Eng. Div, U. S. Geol. Surv; also connected with Iowa, N. Y, Md, and N. J. surveys. F.A.A; Soc. Nat; Geol. Soc; Soc. Zool; Paleont. Soc. (Exec. Council); Ass. Anat; Nat. Geog. Soc; Boston Soc. Nat. Hist. Vertebrate paleontology, especially paleichthyology.—North American and European paleichthyology.

Eastman, Prof. J(ohn) R(obie), Andover, N. H. **Astronomy, Mathematics.* Andover, July 29, 36. B.S, Dartmouth, 62, M.S, 65, Ph.D, 77. Asst. astronomer, U. S. Naval Observatory, 62; prof. math, U. S. N, 65; astronomer, U. S. Naval Observatory, 65–98. In charge of Eclipse Exped, Las Animas, Colo, 78; Transit of Venus Exped, Cedar Keys, Fla, 82; several other expeditions, 69–00. F.A.A. (asst. gen. sec'y, 82, gen. sec'y, 83, v. pres, 87, 92); Astron. and Astrophys. Soc; Wash. Acad. (pres, 98); Wash. Philos. Soc. (pres, 89). Solar, stellar, planetary and meteoric astronomy.—Revised and corrected observations of the sun, moon, planets and comets; semi-diameters of the sun and the principal planets.

Easton, Dr. Burton Scott, 224 S. 43d St, Philadelphia, Pa. *Mathematics.* Hartford, Conn, Dec. 4, 77. Göttingen, 94; B.S, Pennsylvania, 98, Ph.D, 01. *Instr.* math. and astron, Iowa, 98–99; *math, Pennsylvania, 02–* Math. Soc. Theory of substitutions.

Eastwood, Miss Alice, California Academy of Sciences, San Francisco, Cal. **Botany.* Toronto, Can, Jan. 19, 59. High Sch. Teacher, High Sch, East Denver, 80–90; *curator, Bot. Dept, Cal. Acad. Sciences, 92–* F.A.A; Cal. Acad. Systematic botany; phanerogams.

Eaton, Dr. George F(rancis), 80 Sachem St, New Haven, Conn. *Comparative osteology, Paleontology.* New Haven, May 30, 72. A.B, Yale, 94, Ph.D, 98. *Instr. osteol, Yale, 99–, curator, Osteol. Collection, Univ. Mus, 02–, assoc. curator vert. paleont, 04–* Soc. Nat; Conn. Acad.

Ebaugh, Dr. W(illiam) Clarence, University of Utah, Salt Lake City, Utah. *Chemistry.* Philadelphia, Pa, Jan. 3, 77. B.S, Pennsylvania, 98, Ph.D, 01. Asst. and chief chemist, Iron and Steel Lab, near Reading, Pa, 98–99; director pro tem, Dept. Physics and Chem,

Kenyon, 01–02; chemist, Am. Smelting and Ref. Co, and public analyst, Salt Lake City, 02–03; *director, Dept. Chem, Utah, 03–* Chem. Soc. Atomic weight of arsenic; steel analysis.—Pollution of atmosphere in lower Salt Lake Valley by smelter fumes.

Eccles, Prof. David C(harles), 87 Lake St, Chicago, Ills. *Chemistry.* Brooklyn, N. Y, Dec. 10, 76. B.S, Columbia, 00, A.M, 01. Instr. *chem,* Wash. Agr. Col, 01–02; *Sch. of Pharmacy, Northwestern,* 02–05, *asst. prof, 05–* M.A.A; Chem. Soc. New derivatives of antipyrin.

Eccles, Dr. R(obert) G(ibson), 191 Dean St, Brooklyn, N. Y. *Chemistry, Botany.* Kilmaurs, Ayrshire, Scotland, Jan. 1, 48. M.D, Long Isl. Col. Hosp, 82; Ph.G, Brooklyn Col. Pharmacy, 90. Prof. org. chem, Brooklyn Col. Pharmacy, 90–92; chemist, U. S. Dept. Indian Affairs, 93–95. Ed, 'Popular Science News,' 95; assoc. ed, 'Merck's Report,' 95–; ed, 'Am. Medico-Surg. Bul,' 97–98; 'Merck's Archives,' 99–01; mem. Committee of Revision, U. S. Pharmacopœia, 99–00. Hon. Pharm. D, Scio, 03. F.A.A; Ass. Anat; Chem. Soc; Am. Med. Ass; Pharmaceut. Ass. (chairman, Dept. Educ.); Torrey Bot. Club; hon. mem. Cal. Pharmaceut. Ass; N. J. Pharmaceut. Ass; N. Y. State Pharmaceut. Ass. (pres.); Brooklyn Inst. (pres, Chem. Sect.). Pepsin; antiseptics; chemistry of Calycanthus glaucus; drugs and digestion; melting points and solubilities of alkaloids.—Chemistry of Glycyrrhiza glabra.

Echols, Prof. W(illiam) H(olding), Charlottesville, Va. **Mathematics.* San Antonio, Tex, Dec. 2, 59. B.S, C.E, Virginia, 82. Civil and mining engineer, 82–87; prof. applied math. and director, Mo. Sch. of Mines, 87–91; *prof. math, Virginia, 91–* Late ed.-in-chief, 'Annals of Math.' Math. Soc. Theory of functions; mathematical analysis.—The construction of functions by infinite series of functions; mathematical analysis.

Eckel, Edwin C(larence), 1925 14th St, N. W, Washington, D. C. *Engineering, Geology.* New York, N. Y, March 6, 75. Col. City of N. Y, 89–91; B.S, N. Y. Univ, 95, C.E, 96. Asst. geol, N. Y. State Mus, 00–02; *asst. geologist, U. S. Geol. Surv, 02–* M.A.A; assoc. Civil Eng; Soc. Chem. Indust; Wash. Geol. Soc. Classification and technology of cements; testing of materials of construction; economic geology.

Eckstein, Dr. Oskar, University of Chicago, Chicago, Ills. *Chemistry.* Munich, Germany, April 2, 79. Diploma, Tech. Hochschule, Munich, 99; Sc.D, Geneva, 00, Ph.D, 01. Privatdocent, Geneva, 02; *instr. chem,* Tufts, 03–04; *Chicago, 04–* Lecturer, Santa Fé, 05. Chem. Soc; Chem. Gesell; Soc. chim. de Genève. Aromatic compounds.—Naphtylenoxids; Beckmann rearrangement.

Eckstorm, Mrs. F(annie) H(ardy), 173 Wilson St, Brewer, Me. *Ornithology.* Brewer, June 18, 65. A.B, Smith, 88. Supt. schools, Brewer, 89–90. Ornithology.

Eddy, Dr. Henry T(urner), 916 Sixth St, S. E, Minneapolis, Minn. **Mathematics, Mechanics, Engineering.* Stoughton, Mass, June 9, 44. A.B, Yale, 67, Ph.B, 68, A.M, 70; C.E, Cornell, 70, Ph.D, 72; Berlin, 79; Paris, 80. Instr. field work, Sheffield Sci. Sch, Yale, 67–68; Latin and math, Tennessee, 68–69; asst. prof. math. and civil eng, Cornell, 69–73; adj. prof. math, Princeton, 73–74; prof. math, astron. and civil eng, Cincinnati, 74–90, dean, Acad. Faculty, 74–77, 84–89, acting pres. and pres. elect, 90; pres, Rose, 91–94; *prof. eng. and mech, Minnesota, 94–* LL.D, Center (Ky.), 92. F.A.A. (sec'y, A, 82, v. pres, 84); Math. Soc; Physical Soc; Eng. Educ. (pres, 96); Philos. Soc. Mathematics; mechanics; physics; engineering.

Edes, Dr. Robert T(haxter), 419 Boylston St, Boston, Mass. *Pathology.* Eastport, Me, Sept. 23, 38. A.B, Harvard, 58, M.D, 61. Asst. surgeon and past asst. surgeon, U. S. N, 61–65; asst. prof. and later prof. mat. med, Harvard Med. Sch, 70–84, Jackson prof. clin. med, 84–86. Visiting physician, Boston City Hosp, 72–86; Garfield Mem. Hosp, Wash, 89–91; lecturer, Med. Schools, Dartmouth, Georgetown and Columbian. Prize, Mass. Med. Soc, 68; O'Reilly prize, 69. Am. Physicians; Neur. Ass. Medical pathology; psychiatry; physiology.

Edison, Dr. Tho(ma)s A(lva), Orange, N. J. **Physics.* Milan, O, Feb. 11, 47. Self educated. Telegraph operator up to 69; *elec. engineer and inventor, 69–* Commandeur Légion d'honneur; hon. Ph.D, Union, 78. Elec. Eng; Mech. Eng; Min. Eng; Philos. Soc. Science as applied to invention; quadruplex and sextuplex telegraphic transmission; microtasimeter; phonograph; aerophone; incandescent lamp and light system; kinetoscope; etc.

Edmondson, Prof. T(homas) W(illiam), Decatur Ave, Bedford Park, New York, N. Y. *Mathematics, Physics.* Skipton, England, June 26, 69. A.B, London, 88; A.B, Cambridge, 91; fellow, Clark, 94–96, Ph.D, 96. Asst. prof. physics, *N. Y. Univ,* 96–03, assoc. prof, 03–05, *prof. math, 05–* Asst. tutor math. and physics, Univ. Correspondence Col, Cambridge, England, 89–93. Physical Soc; Math. Soc. Spark discharge in dielectrics; theory of potential.—Spherical harmonic analysis.

Edmunds, Dr. Cha(rle)s K(eyser), Honglok, Canton, China. *Physics, Electrical engineering.* Baltimore, Md, Sept. 21, 76. Baltimore City Col, 90–93; A.B, Hopkins, 97, fellow, 02–03, Ph.D, 03. Acting prof. physics, Utah, 98–99; magnetic observer, U. S. Coast and Geod. Surv, 00; instr. physics, High Sch, Washington, D. C, 00–01; *prof. physics and elec. eng, Canton Christian Col, China, 03–* Ed, 'South China Collegian', 03– Physical Soc; assoc. Elec. Eng; Am. Ass. of China. Optical properties of selenium.—The magnetic field of the earth in China.

Edsall, Dr. David L(inn), 1432 Pine St, Philadelphia, Pa. *Medicine.* Hamburg, N. J, July 6, 69. A.B, Princeton, 90; M.D, Pennsylvania, 93;

Mercy Hosp. and Rosalia Foundling Asylum, Pittsburg, 93–94; London, Vienna and Gratz, 94–95, 01; Woodward fellow, Pennsylvania, 05. Assoc, William Pepper Lab, *Pennsylvania*, 95–05, instr. *med*, 99–03, assoc, 03–05, *asst. prof*, *05–* Am. Physicians; Ass. Path. and Bact; Pediat. Soc; fel. Phila. Col. Physicians; Interurban Clin. Club. Physiology and pathology of digestion and metabolism; clinical medicine.—Digestion; metabolism.

Edwards, Prof. Arthur M(ead), 423 Fourth Ave, Newark, N. J. *Geology, Physics, Chemistry.* New York, N. Y, Aug. 16, 36. M.D, Columbia, 73. Prof. chem. and micros, Woman's Med. Col. of the N. Y. Infirmary, 68; chem, N. Y. Col. of Pharmacy, 68. Asst. micros, Northwest Bound. Surv; Cal. Geol. Surv; lecturer chem, Dartmouth. M.A.A; fel. Am. Geog. Soc; Ind. Acad; N. Y. Acad; Phila. Acad; Chicago Acad; Boston Soc. Nat. Hist; N. Y. Micros. Soc; Torrey Bot. Club; Glacialists' Ass; fel. Royal Micros. Soc; London Geol. Soc; fel. London Linnean Soc; Scottish Micros. Soc; Soc. géol. de France. Microgeology; electricity; light; botany; Bacillaria.—Microgeology; Bacillaria; electricity.

Edwards, Dr. Arthur R(obin), 100 State St, Chicago, Ills. *Medicine.* Chicago, June 26, 67. A.B, Northwestern, 88, A.M, M.D, 91. Interne, Cook Co. Hosp, 91–92; *prof.* therap, *Med. Sch, Northwestern, 96–98, principles and practise of med. and clin. med, 98–* Attending physician, Cook Co. Hosp, 93–; St. Luke's Hosp, 96–; Wesley Hosp, 98–; Mercy Hosp, 01– Am. Physicians; Am. Med. Ass; Chicago Med. Soc; Chicago Path. Soc; Chicago Neur. Soc; Chicago Soc. Internal Med. Internal medicine.

Edwards, Prof. Charles L(incoln), 89 Buckingham St, Hartford, Conn. **Zoology.* Oquawka, Ills, Dec. 8, 63. B.S, Lombard, 84; B.S, Indiana, 86, A.M, 87; Hopkins, 86–89; Ph.D, Leipzig, 90; fellow, Clark, 90–92. Adj. prof. biol, Texas, 92–93, asst. prof, 93–94; prof, Cincinnati, 94–00; *J. Pierpont Morgan prof. nat. hist, Trinity (Conn.), 00–* F.A.A; Soc. Nat; Soc. Zool; Ass. Anat; Folk-lore Soc. (pres, 99); cor. mem. Soc. de Geog. y Est. Mex; hon. mem. Soc. Mex. Hist. Nat; Soc. Cient. Ant. Alz. Embryology of holothurians; influence of warmth on protoplasm; taxonomy of fishes, Copepoda and Holothurioidea.—Variation in Synapta inhaerens; embryology of Phrynosoma; holothurians of U. S. National Museum.

Edwards, Prof. Geo(rge) C(unningham), 2546 Dana St, Berkeley, Cal. *Mathematics.* Spencer Acad, Ind. T, 52. Ph.B, California, 73. Instr, later asst. prof. and *assoc. prof. math, California, 73–* In charge, Mil. Dept, California, 73–77, 79–82. Math. Soc; Pacific Astron. Soc. (pres, 04–05); Cal. Acad. Elementary mathematics; ratio of the values of silver and gold.

Edwards, W(illiam) F(ranklin), 130 N. Lafayette St, Grand Rapids, Mich. *Physical chemistry.* Rock Island, Ills, Feb. 13, 58. B.S, Michigan, 90. Instr. physical chem, Michigan, 90–95; prof. physics and chem, Washington (Seattle), 95–98; *professional metallurgist, 98–* Optical, thermal and electrical properties of molecules.—Degree of freedom of molecules of a gas in dilute solutions.

Edwards, W(illia)m H(enry), Coalburgh, W. Va. *Entomology.* Hunter, N. Y, March 15, 22. A.B, Williams, 42. The butterflies of North America; diurnal Lepidoptera.

Eells, Rev. M(yron), Twana, Wash. *Anthropology, History.* Walkers Prairie, Wash, Oct. 7, 43. A.B, Pacific, 66, A.M, 69; B.D, Hartford Theol. Sem, 71. *Minister, Congregational Church, and missionary among Indians, 71–* Supt, Wash. Ethnol. Exhib, Columbian Expos, 92–93. D.D, Whitman, 90; diploma and medal, Columbian Expos, 94. Hon. mem. Int. Cong. Americanists. Cor. mem. Victoria Inst; various hist. societies. Anthropology; history.—History of the Pacific Coast.

Egbert, Prof. Seneca, 4814 Springfield Ave, Philadelphia, Pa. *Hygiene, Sanitation.* Petroleum Center, Pa, Feb. 17, 63. A.B, Princeton, 84, A.M, 87; M.D, Pennsylvania, 88. Demonstrator hygiene, Pennsylvania, 88–90, lecturer, 90–92; *prof. hygiene and sanitation, Medico-Chirurg. Col, Phila, 93–, dean, Dept. Med, 98–* Lecturer hygiene, P. E. Church Training Sch, 91–04; Drexel Inst, 92–93; prof. anat, physiol. and hygiene, Temple, 96–99. Pub. Health Ass; Am. Med. Ass; Pa. Med. Soc; Phila. Co. Med. Soc; Phila. Acad. Natural sciences.

Ehrenfeld, Prof. Charles H(atch), 57 S. Beaver St, York, Pa. *Chemistry.* Shippensburg, Pa, March 12, 64. A.B, Wittenberg, 86, A.M, 89; Ph.D, Pennsylvania, 94. Asst. chem, Wittenberg, 86–87; *prof. chem. and physics, York Collegiate Inst, 87–* Chief chemist, York Mfg. Co, 03– M.A.A; Chem. Soc; Soc. Chem. Indust; Soc. Testing Materials; Nat. Geog. Soc. Native minerals of York County, Pa.

Ehrenfeld, Dr. Frederick, University of Pennsylvania, Philadelphia, Pa. *Mineralogy, Geology.* West Brownsville, Pa, Jan. 8, 72. A.B, Wittenberg, 93; Ph.D, Pennsylvania, 98. Instr. chem. and physics, York Collegiate Inst, Pa, 93–94; *instr. geol. and miner, Pennsylvania, 97–* M.A.A; Phila. Acad. Stratigraphical geology.

Eichelberger, Prof. W(illiam) S(nyder), U. S. N, U. S. Naval Observatory, Washington, D. C. **Astronomy.* Baltimore, Md, Sept. 18, 65. Baltimore City Col, 78–83; A.B, Hopkins, 86, Ph.D, 91. Instr. math. and asst. astron, Wesleyan, 90–96; asst, 'Nautical Almanac' Office, 89–90, 96–98; computer, *U. S. Naval Observatory*, 98–00, *prof. math, 00–* F.A.A; Astron. and Astrophys. Soc; Wash. Acad; Astron. Gesell. The orbit of Hyperion; perturbations of Minerva by Jupiter.—Formation of catalogue from Washington zones, 1846–1852; determination of the position of 3,000 zodiacal stars with the transit circle.

Eiesland, Prof. John A(rndt), 176 Prince George St, Annapolis, Md. *Mathematics.* Kristians-

sand, Norway, 67. Ph.B, South Dakota, 91; Ph.D, Hopkins, 98. *Instr. math*, Luther Acad, 91–92; Thiel, 95–03; *U. S. Naval Acad, 03–* F.A.A; Math. Soc. Functions with line singularities; integral of a certain system of differential equations; nul-systems in a five-dimensional space and their representation in ordinary space.—Euler's contact transformation; a system of differential equations in kinematics.

Eigenmann, Dr. Carl H, Bloomington, Ind. **Zoology.* Flehingen, Germany, March 9, 63. A.B, Indiana, 86, A.M, 87; Harvard, 87–88; Ph.D, Indiana, 89. *Prof. zool, Indiana, 91–, director, Biol. Sta, 95–* Acting curator fishes, Cal. Acad. Sciences; collector for British Mus. in Cal, Idaho, Mont, Ore. and western Can; asst, U. S. Fish Commission, Woods Hole. F.A.A. (sec'y, F, 00); Soc. Nat; Soc. Zool. (pres, Central Branch, 04); Ass. Anat; Micros. Soc. (pres, 01); Am. Geog. Soc; Wash. Acad; fel. Ind. Acad. (pres, 99). Variation, distribution and embryology of fishes; degeneration in cave vertebrates.—The cave problem in North America; fresh-water fishes of tropical America; heredity.

Eisen, Dr. Gustav (August), California Academy of Sciences, San Francisco, Cal. *Biology.* Stockholm, Sweden, Aug. 2, 47. Ph.D, Upsala, 72. Docent zool, Upsala, 72; curator, Cal. Acad. Sciences, 93–00. Ed, 'California,' 89; mem. Jury of Awards, Cal. Mid-Winter Fair, 95. Cal. Acad. (pres, 05); San Francisco Micros. Soc; cor. mem. Prag Wissentsch. Gesell; cor. mem. Swedish Soc. Anthrop. and Geog. Oligochaeta; cytology; caprification of the fig; the plasmocytes of human and batrachian blood.—Aquaria and biological stations.

Eisenhart, Dr. Luther P(fahler), Princeton, N. J. *Mathematics.* York, Pa, Jan. 13, 76. A.B, Gettysburg, 96; Ph.D, Hopkins, 00. Tutor *math*, Gettysburg, 96–97; *instr, Princeton, 00–* Math. Soc. Deformation of curved surfaces; conjugate systems of lines on surfaces; rectilinear congruences; general congruences; particular systems of lines on surfaces.—Surfaces of constant curvature and surfaces whose lines of curvature have the same representation on the sphere as the former.

Ekeley, Prof. John Bernard, 1613 Spruce St, Boulder, Colo. *Chemistry.* Örebro, Sweden, Jan. 1, 69. A.B, Colgate, 91, A.M, 93; Ph.D, Freiburg, 02. Instr. chem, Colgate, 91–93; science master, St. Paul's Sch, Garden City, N. Y, 93–00; *prof. chem, Colorado, 02–* West. Ass. Tech. Chem. and Metal. Organic chemistry; dithionium bases; dihydroquinoxalins.—Dihydroquinoxalins.

Elftman, Dr. A(rthur) H(ugo), 706 Globe Building, Minneapolis, Minn. *Geology, Mining engineering.* Prescott, Wis, March 28, 72. B.L, Minnesota, 92, M.S, 93, Ph.D, 97. Field geologist, Minn. Geol. Surv, 92–97; instr. geol, Minnesota, 94–97; *mining engineer, 97–* M.A.A; Geol. Soc; Min. Eng; Minn. Acad. Petrography of mineral deposits; glacial geology.—Geology of mineral and glacial deposits.

Eliot, Pres. Charles W(illiam), 17 Quincy St, Cambridge, Mass. *Education, Chemistry, Mathematics.* Boston, Mass, March 20, 34. A.B, Harvard, 53, A.M, 56. Tutor, Harvard, 54–58, asst. prof. math, 58–61, chem, 58–63; prof. anal. chem, Mass. Inst. Tech, 65–69; *pres, Harvard, 69–* LL.D, Williams and Princeton, 69; Yale, 70; Hopkins, 02; Chevalier Légion d'honneur. Nat. Educ. Ass. (pres, 02–03); fel. Am. Acad; Philos. Soc; Mass. Hist. Soc; Wash. Acad; cor. mem. Inst. de France. Educational reform.

Elkin, Dr. W(illiam) L(ewis), Yale Observatory, New Haven, Conn. **Astronomy.* New Orleans, La, April 29, 55. C.E, Royal Polytech, Stuttgart, 76; Ph.D, Strasburg, 80. Astronomer, *Yale Observatory, 84–96, director, 96–* Volunteer, Royal Observatory, Cape of Good Hope, 81–83. Hon. A.M, Yale, 93. Nat. Acad; F.A.A; Astron. and Astrophys. Soc; Conn. Acad; assoc. Royal Astron. Soc; Astron. Gesell. Stellar parallaxes; star clusters; photography of meteors.

Ellerman, Ferdinand, 451 Winona Ave, Pasadena, Cal. *Astrophysics.* Centralia, Ills, May 13, 69. High Sch. In business, 86–92; asst, Kenwood Observatory, 92–95; Yerkes Observatory, 95–01, instr. astrophys, 01–04; *asst. astronomer, Solar Observatory, Carnegie Inst, 05–* Astron. and Astrophys. Soc. Solar spectroscopy; stellar spectra.—Spectra of sun-spots; chromosphere.

Elliot, Prof. D(aniel) G(iraud), Field Columbian Museum, Chicago, Ills. **Zoology.* New York, N. Y, March 7, 35. *Curator zool, Field Columbian Mus, 94–* Decorated ten times by various European governments. Soc. Nat; fel. Ornith. Union; Wash. Acad; fel. Edinburgh Royal Soc. Mammalogy; ornithology; osteology; mammals of middle America and its seas, with West Indies.

Ellis, Dr. A(lexander) Caswell, Austin, Tex. *Education.* Franklin Co, N. C, May 4, 71. A.B, North Carolina, 94; Harvard Summer Sch, 94; Ph.D, Clark, 97. Adj. prof. pedag, *Texas, 97–03, assoc. prof. science and art of educ, 03–* Lecturer, Summer Sch, North Carolina, 95, 96. M.A.A; Ass. Adv. Physical Educ; fel. Tex. Acad. Child psychology; philosophy of education.—History of the philosophies of education; methods of testing fatigue; stubbornness; the art instinct in children; literary tastes of children.

Ellis, Dr. F(red) W(arren), Monson, Mass. *Physiology, Ophthalmology.* Wales, Mass, April 10, 57. M.D, Harvard, 81, grad. student, 83–86. M.A.A; Physiol. Soc; Mass. Med. Soc. Physiology of vasomotor nerves; plethysmographic experiments with piston-recorder; visual sensations.—Electrophysiology.

Ellis, J(ob) B(icknell), Newfield, N. J. **Mycology.* Potsdam, N. Y, Jan. 21, 29. A.B, Union,

51. Various teaching positions, 51–78; *collector of fungi, 78–* Cor. mem. Phila. Acad; cor. mem. Scottish Crypt. Soc; cor. mem. Vienna K. K. Zool-Bot. Gesell. North American Pyrenomycetes.

Ellms, Joseph W(ilton), Laboratory of Commissioners of Water Works, E. Court and Martin Sts, Cincinnati, O. *Chemical engineering.* Ayer, Mass, Oct. 4, 67. Mass. Inst. Tech, 90–93. Asst. chemist, Mass. Board Health, 93–96; Louisville Water Co, 96; chemist, Dept. Health, Brooklyn, N. Y, 97; asst. chemist, *Com. Water Works, Cincinnati,* 98, *chemist in charge, Exp. Sta, 99–* Consulting expert on water purification to various municipalities and corporations. Chem. Soc. (sec'y, Cincinnati Sect, 04, mem. Committee on Water and Sewage Anal, 05); Pub. Health Ass. (mem. Committee on Water Anal, 02–05); Soc. Chem. Indust. Water purification; chemical engineering; chemistry, microscopy and physical characteristics of natural waters. Colloids in relation to water purification.

Elmer, A(dolph) D(aniel) E(dward), Manila, P. I. *Botany.* Vandyne, Wis, June 14, 70. B.S.D, Ore. State Nor. Sch, 94; B.S, Wash. Agr. Col, 99; A.M, Stanford, 04. Asst, Herbarium, Stanford, 00–04; *govt. bot. collector, P. I, 04–* Professional bot. collector, 95–04. Flora of the Olympic mountains; native and naturalized grasses of Washington; new western plants.—Philippine flora.

Elrod, Prof. Morton J(ohn), Missoula, Mont. *Zoology.* Monongahela, Pa, April 27, 63. A.B, Simpson, 87, A.M, 90, M.S, 02; Ph.D, Ills. Wesleyan, 05. Principal, High Sch, Corydon, Ia, 88–89; asst. science, Ills. Wesleyan, 89–90, adj. prof, 90–92, *prof. biol,* 93–97; *Montana, 97–, director, Biol. Sta, 98–* Lit. ed, 'Iowa Schools', 89–95; chairman, Mont. State Board of Game and Fish, 99–00. F.A.A; assoc. Ornith. Union; Am. Geog. Soc; Forestry Ass; Micros. Soc; Mont. Acad. (pres, 01–04). Limnobiology of Flathead Lake; studies in Odonata; conchology of Montana; butterflies of Montana. —Variations in Pyramidula strigosa; limnobiology of Flathead Lake.

Elrod, Dr. Moses N(ewton), 823 Washington St, Columbus, Ind. *Geology.* Orange Co, Ind, April 4, 38. Hartsville, 55–58; M.D, Ky. Sch. of Med, 64. Asst. to state geologist, Ind, 75, 81–84, 91–94. Ind. Acad. Stratigraphic geology.—Stratigraphic position of the Kaskaskia of Indiana.

Ely, Dr. Theo(dore) N(ewel), Bryn Mawr, Pa. *Engineering.* Watertown, N. Y, June 23, 46. C.E, Rensselaer, 66. Engineer, Fort Pitt Foundry, Pittsburg, 66–68; *with Pa. R. R, 68–,* established scientific dept, 75. Director of various steel companies. Hon. A.M, Yale; Sc.D, Hamilton, 04. F.A.A; Civil Eng; Mech. Eng; Min. Eng; Nat. Geog. Soc; Forestry Ass; Philos. Soc; Archeol. Inst; Franklin Inst; Am. Soc. Univ. Extension Teaching; hon. mem. Inst. Archit; Eastern R. R. Ass. (pres.); Am. Hist. Ass; Am. Acad. in Rome (v. pres.); Int. Ass. Testing Materials; London Civil Eng.

Emch, Dr. Arnold, Cantonal College, Solothurn, Switzerland. **Mathematics.* Hessigkofen, Switzerland, March 24, 71. Cantonal Col, Solothurn, 86–90; Polytech, Zürich, 90–93; Ph.D, Kansas, 95. Asst. prof. graphics, Kansas, 95–97; prof. math, Technicum, Biel, Switzerland, 97–99; graphic math, Kas. State Agr. Col, 99–00; asst. prof. pure and applied math, Colorado, 00–03, *prof.* graphics and math, 03–05; *math, Cantonal Col, Solothurn, 05–* Math. Soc; Eng. Educ; Zürich Gesell. ehemaliger Polytech. Problems of closure; transformations realized by linkages.—Stresses corresponding to transformations in a plane; linkages for many valued functions; applications of elliptic functions; projective geometry.

Emerson, Prof. B(enjamin) K(endall), 21 Northampton Road, Amherst, Mass. **Geology.* Nashua, N. H, Dec. 20, 43. A.B, Amherst, 65; Ph.D, Göttingen, 69. *Prof. geol, Amherst, 70–; Smith, 70–* Asst. geologist, U. S. Geol. Surv. Int. Geol. Cong, St. Petersburg, 97 (v. pres.). F.A.A. (v. pres, 96); Geol. Soc. (pres, 99); Nat. Geog. Soc; Philos. Soc; Am. Acad; Wash. Acad; Geol. Gesell. Crystalline rocks of central and western Massachusetts; Connecticut Valley surface and Triassic geology; geology of old Hampshire County.—Geology of Worcester and Berkshire counties, Mass, and western Rhode Island.

Emerson, Dean Charles F(ranklin), Dartmouth College, Hanover, N. H. *Physics, Astronomy.* Chelmsford, Mass, Sept. 28, 43. A.B, Dartmouth, 68, A.M, 71. Instr, N. H. Col. Agr. and Mech. Arts, 68–74; tutor math, *Dartmouth,* 68–72, assoc. prof. nat. philos. and math, 72–78, instr. astron, 77–92, Appleton prof. nat. philos, 78–99, *dean of Faculty, 93–* F.A.A.

Emerson, Philip, 9 Beede Ave, Lynn, Mass. *Geography.* Reading, Mass, May 7, 65. Bridgewater State Nor. Sch, 81–85; Summer Sch, Harvard. *Principal,* various schools, 85–98; *Cobbet Grammar Sch, 98–* Instr, Summer Sch, Cornell, 03, 04. Appalachian Mt. Club; Boston Teachers Geog. Club. Methods of instruction in geography; physiography of New England.—Commercial geography.

Emerson, Prof. R(ollins) A(dams), 1205 N. 33d St, Lincoln, Nebr. *Horticulture.* Pillar Point, N. Y, May 5, 73. B.S, Nebraska, 97. Horticulturist, Office of Exp. Stations, U. S. Dept. Agr, 97–98; asst. prof. *hort, Nebraska,* 99–04, *prof, 05–* Soc. Hort. Sci; Pomol. Soc; Soc. Prom. Agr. Sci; Nebr. Acad. Heredity in plants.

Emerton, James H, 194 Clarendon St, Boston, Mass. **Zoology.* Salem, Mass, 47. Illustrator of zool. publications; constructed zool. and anat. models for various museums. Soc. Nat; Entom. Soc. Structure and habits of spiders; common spiders of the United States.

Emery, A(lbert) H(amilton), 788 Main St, Stamford, Conn. *Engineering.* Mexico, N. Y, June 21, 34. C.E, Rensselaer, 58. Railway surveying, 54–55; draftsman for Gen. Delafield, N. Y. State and Harbor Defenses, 61–62; *designer and builder, First Nat. Chem. Works of N. J, 65–* Designer and builder of testing machines, 72–86; consulting engineer, West End St. R. R, Boston, 92. Grand medal of honor and gold medal, Mass. Charitable Mech. Ass. F.A.A; Mech. Eng. Ordnance; projectiles; gun carriages; hydraulic presses; scales; gages and testing machines; car-dynamometers.—Leakage and friction of unpacked pistons.

Emmit, William LeRoy, Schenectady, N. Y. *Electricity, Mechanics.* Pelham, N. Y, July 10, 59. Grad, U. S. Naval Acad, 81. *Engineer,* Sprague, Westinghouse and Edison Gen. Elec. Companies, 87–92; *Gen. Elec. Co, 92–* Elec. Eng. (past v. pres.); Mech. Eng; Philos. Soc. Electrical designing; steam turbines.—Steam turbines.

Emmons, S(amuel) F(ranklin), 1721 H St, N. W, Washington, D. C. **Geology, Mining engineering.* Boston, Mass, March 29, 41. A.B, A.M, Harvard, 61; École Impèriale des Mines, Paris, 62–64; Bergakad, Freiberg, 64–65. *Geologist,* U. S. Geol. Exploration 40th Parallel, 67–77; *U. S. Geol. Surv, 79–* Int. Geol. Cong. (gen. sec'y, 91–, v, pres, 91–03). Nat. Acad. (treas, 02–); F.A.A; Geol. Soc. (pres, 03); Min. Eng. (v. pres, 82, 90, 01); hon. mem. Philos. Soc; assoc. fel. Am. Acad; Wash. Acad; Wash. Geol. Soc. (pres, 96); Colo. Sci. Soc. (first pres, 82); fel. London Geol. Soc; hon. mem. Soc. Helvetique des Sci. Nat. Orography; science of ore deposits.—Id; mountain building.

Ende, Dr. Carl L(eopold) von, P. O. Box 1831, Iowa City, Ia. *Chemistry.* Burlington, Ia, July 2, 70. B.S, Iowa, 93, M.S, 94; Ph.D, Göttingen, 99. Demonstrator chem, Med. Col, Iowa, 94–95; teacher science, High Sch, Burlington, 95–96; instr. *chem, Iowa,* 96–97, 99–05, *asst. prof, 05–* Chem. Soc. Physical chemistry.—Solubilities in organic solvents.

Endemann, Dr. (Samuel Theodor) H(ermann Carl), 23 William St, Brooklyn, N. Y. *Chemistry.* Fulda, Germany, April 4, 42. Ph.D, Marburg, 66. Repetent, Polytech, Stuttgart, 64–67; asst. to Prof. Chandler, Sch. of Mines, Columbia, asst. chem, Columbia, 67–69; asst. chemist, Health Dept, N. Y. City, 69–80; *research chemist, 80–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell; Tech. Gesell; Chem. Verein. Organic chemistry; disinfectants; asphalts; cements; utilization of waste products; fertilizers.—Borate of manganese; composition and constitution of shellac; constitution of abietic acid.

Engberg, Dr. Carl C(hristian), State University, Lincoln, Nebr. *Mathematics.* Hyttön, Sweden, Nov. 13, 72. B.S, Nebraska, 95, A.M, 97, Ph.D, 99. Instr. *math, Nebraska,* 00–03, adj. prof, 03–04, *asst. prof, 04–* Math. Soc. The Cartesian oval; evolutes; a new transformation.—Biometry.

Engle, Prof. W(ilber) D(wight), University Park, Denver, Colo. *Chemistry.* Portland, Mich, Aug. 31, 70. A.B, Albion, 93, A.M, 94; Ph.D, Columbia, 98. Asst. prof. *chem,* Albion, 94–95; *prof, Denver, 95–; Denver Col. of Med, 98–* M.A.A; Chem. Soc. Organic chemistry; botanical chemistry.

Engler, Dr. Edmund A(rthur), 11 Boynton St, Worcester, Mass. *Mathematics.* St. Louis, Mo, Dec. 23, 56. A.B, Washington (St. Louis), 76, Ph.B, 77, A.M, 79, Ph.D, 92. Prof. math, Washington (St. Louis), 81–01, dean, Sch. of Eng, 96–01; *pres, Worcester, 01–* Mem. Washington (St. Louis) eclipse party to Norman, Cal. 89; chairman, Jury of Awards, Div. of Mfg, Pan-Am. Expos, 01; Int. Jury on Instruments of Precision, La. Purchase Expos, 04. LL.D, Washington (St. Louis), 01. F.A.A; Math. Soc; Nat. Geog. Soc; Antiq. Soc. (mem. Council); St. Louis Acad. (sec'y, 85–91, director, 94–95, v, pres, 96–97, pres, 98–01).

Enteman, Dr. Wilhelmine Marie, Hartland, Wis. *Biology.* Hartland, Feb. 22, 72. A.B, Wisconsin, 94; fellow, Chicago, 99–01, Ph.D, 01. Asst. German and biol, High Sch, Green Bay, Wis, 94–98; asst. zool, Chicago, 99–01; *teacher biol. and nature study, N. Mex. Nor. Univ, 03–* Nat. Cent. States. Variation in Daphnia; behavior of social wasps; coloration in Polistes.—Coloration of Polistes.

Erdmann, Dr. Cha(rle)s A(ndrew), 612 Ninth Ave, S. E, Minneapolis, Minn. *Anatomy.* Milwaukee, Wis, Aug. 3, 66. Ph.G, Wisconsin, 87; M.D, Minnesota, 93; London and Vienna, 98–99. Prosector *anat, Minnesota,* 93–95, demonstrator, 95–97, asst. prof, 97–99, *prof, 99–* Ass. Anat; Am. Med. Ass; Western Surg. and Gynec. Ass; Minn. Acad. Med; Minn. State and Hennepin Co. Med. Associations. The articulations.

Erikson, Henry A(nton), 220 Church St, S. E, Minneapolis, Minn. *Experimental physics.* Mt. Morris, Wis. B.E.E, Minnesota, 96. *Instr.* science, High Sch, Rochester, Minn, 96–97; *physics, Minnesota, 97–* Physical measurements.—Contact potential; rate of oxidation of metals.

Erlanger, Dr. Joseph, 103 Jackson Place, Baltimore, Md. *Physiology.* San Francisco, Cal, Jan. 5, 74. B.S, California, 95; M.D, Hopkins, 99, fellow, 00. Res. med. officer, Hopkins Hosp, 99–00, asst. *physiol, Hopkins,* 00–01, instr, 01–03, assoc, 03–04, *assoc. prof, 04–* Physiol. Soc; Soc. Exp. Biol. and Med. Metabolism in dogs with shortened small intestines; clinical methods of determining blood pressure.—Influence of pulse pressure on renal secretion; mechanism of the circulation; heart-block in man.

Ernst, Dr. Harold C(larence), 8 Greenough Ave, Jamaica Plain, Boston, Mass. *Bacteriology.* Cincinnati, O, July 31, 56. A.B, Harvard, 76, M.D, 80, A.M, 84. Demonstrator *bacter, Harvard Med. Sch,* 85–89, instr, 89–91, asst. prof.

91–95, *prof, 95–* Ed, 'Jour. Med. Research.' Soc. Nat; Ass. Path. and Bact. (sec'y); Soc. Bact; Am. Physicians; Am. Acad; Boston Soc. Med. Sci. (pres.); etc. Tuberculosis; rabies; suppuration; diphtheria; etc.—Tuberculin and tuberculosis; ultraviolet photography.

Erwin, Prof. A(rthur) T(homas), Iowa State College, Ames, Ia. *Horticulture.* Fulton, Mo, Nov. 8, 74. Washington (St. Louis), 92–96; Missouri, 96–98; B.S, Arkansas, 00; M.S.A, Iowa State, 02. Asst. *hort,* Ark. Exp. Sta, 98–99; instr, *Iowa State,* 00–03, *assoc. prof, 03–* Hort. ed, 'Iowa State Register.' M.A.A; fel. Iowa Acad. Pomology of Iowa and the middle west.—Pomology.

Escott, Edward B(rind), 718 Monroe St, Ann Arbor, Mich. *Mathematics.* Grand Rapids, Mich, May 24, 68. B.S, Michigan, 95; fellow, Chicago, 95–96, M.S, 96; Harvard, 96–97. Teacher, High Sch, Sheboygan, Wis, 97–98; Grand Rapids, 98–00; *instr. math, Michigan, 00–* Math. Soc. Theory of substitutions; theory of numbers.

Esten, W(illiam) M(errill), 109 Lawn Ave, Middletown, Conn. *Biology, Bacteriology.* Glendale, R. I, Aug. 27, 62. B.S, Wesleyan, 94, M.S, 96. *Asst. biol, Wesleyan, 94–; dairy bacter, Storrs Agr. Exp. Sta, 01–* Instr. histol, Summer Sch, Brooklyn Inst, 95; prof. biol, Chautauqua, 97–98. Special agent, U. S. Dept. Exp. Sta. Div, Columbian Expos, 93; investigator, Rockefeller Inst. for Med. Research. Soc. Bact; Middletown Sci. Ass. (sec'y, 01–). Bacteriology of milk; ripening of cream.—Changes in varieties and numbers of bacteria in milk; effect of temperature in determining species of bacteria in milk.

Esty, Prof. T(homas) C(ushing), 130 Harvard St, Rochester, N. Y. *Mathematics.* Amherst, Mass, Dec. 8, 70. A.B, Amherst, 93, A.M, 97. Instr. math. and drawing, Case, 94–95; *math,* Amherst, 95–98, 99–01; *prof, Rochester, 01–* Math. Soc.

Esty, Prof. William, 21 S. New St, Bethlehem, Pa. *Electrical engineering.* Amherst, Mass, July 9, 68. A.B, Amherst, 89, A.M, 93; B.S, Mass. Inst. Tech, 93. Elec. engineer, Thomson-Houston Elec. Co, 92–93; instr. *elec. eng,* Illinois, 93–95, asst. prof, 95–98, assoc. prof, 98–01; asst. prof, *Lehigh,* 01–03, *prof, 03–* Elec. Eng; Eng. Educ. (mem. Council). Dynamo electric machinery; resistance of insulating materials; electromagnets.—Commutation of the single-phase series alternating current motor.

Esty, Prof. William C(ole), Amherst, Mass. *Mathematics.* Westmoreland, N. H, April 8, 38. A.B, Amherst, 60; Harvard, 60–61; A.M, Amherst, 63. Asst. master, High Sch, Salem, Mass, 61–62; instr. math, *Amherst,* 62–65, *Walker prof. math. and astron, 65–* LL.D, Amherst, 88. Math. Soc.

Eustace, H(arry) J(oshua), Geneva, N. Y. *Botany.* Rochester, N. Y, April 24, 77. B.S, Mich. Agr. Col, 01. *Asst. botanist, N. Y. Agr. Exp. Sta, Geneva, 01–* Soc. Hort. Sci. Plant pathology.—Apple diseases in commercial cold storage; potato diseases.

Evans, Dr. Alexander W(illiam), 67 Mansfield St, New Haven, Conn. **Botany.* Buffalo, N. Y, May 17, 68. Ph.B, Yale, 90, M.D, 92, Ph.D, 99. Instr. *bot, Yale,* 95–01, *asst. prof, 01–* F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; Bot. Soc; Conn. Acad. (sec'y, 97–03). Hepaticae.

Evans, Dr. H(enry) B(rown), 4126 Chester Ave, Philadelphia, Pa. *Mathematical astronomy.* Dayton, O, July 2, 71. M.E, Lehigh, 93; Ph.D, Pennsylvania, 01. Instr. math. and astron, Lehigh, 94–95; Pennsylvania, 95–01; asst, 'Nautical Almanac,' 01–04; *asst. prof. math, Pennsylvania, 04–* M.A.A; Astron. and Astrophys. Soc.

Evans, Prof. Nevil Norton, McGill University, Montreal, Can. *Chemistry.* Montreal, Sept. 28, 65. B.S, McGill, 86, Royal Sch. of Mines, Freiberg, 89–90; Leipzig, 90–91; M.S, McGill, 92. Demonstrator *chem, McGill,* 86–89, lecturer, 91–01, *asst. prof, 01–* Lecturer chem, Nor. Sch, Montreal. Fel. London Chem. Soc. Rock and mineral analysis.—Specific heat of solids.

Evans, Prof. Percy N(orton), 224 Waldron St, West Lafayette, Ind. *Chemistry.* Montreal, Can, Sept. 6, 69. B.S, McGill, 90; 1851 Exhibition scholar (Leipzig), 91–93; Ph.D, Leipzig, 93; hon. fellow, Clark, 94. Asst. *chem,* McGill, 90–91; Wesleyan, 94–95; instr, *Purdue,* 95–96, assoc. prof, 96–00, *prof. and director, Chem. Dept, 00–* Chem. Soc; fel. Ind. Acad. Adsorption of dissolved substances; salts in solution; organic acid phosphids.—Boiler corrosion.

Evans, Prof. Thomas, 25 N. Roslyn St, Cincinnati, O. **Chemistry.* Cincinnati, Oct. 6, 63. Columbia, 81–84; Ph.D, Erlangen, 86. Anal. chemist, Atlanta, Ga, 86–00; chief chemist, Proctor and Gamble Co, 90–92; private asst. to J. M. Crafts, 92–93; instr. org. chem, Mass. Inst. Tech, 93–95; chief chemist, Am. Cotton Oil Co, 95–98; instr. *tech. chem, Cincinnati,* 98–99, asst. prof, 99–01, *prof. in charge, Chem. Dept, 01–, dean, Col. Eng, 05–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Derivatives of tetrahydroquinolin; rosin in soap; ricinin; magnesium amalgam as a reducing agent.—Ricinin; hydrogenated quinolins; magnesium amalgam; synthesis of isoquinolin; the manufacture of steel for electrical purposes.

Evans, Dr. Walter H(arrison), 3432 Newark St, N. W, Washington, D. C. *Botany.* Delphi, Ind, Jan. 3, 63. A.B, Wabash, 87, A.M, 89, Ph.D, 96. Instr. bot, Wabash, 88–90; botanist, Eli Lilly and Co, Indianapolis, 90–91; *bot. ed, 'Exp. Sta. Record,' U. S. Dept. Agr, 92–, chief, Insular Exp. Stations, 03–* Special agent, Columbian Expos, 92–93; special commissioner to Alaska, U. S. Dept. Agr, 97. Gold medal, Paris, 00; grand prize, La. Purchase Expos, 04. Delegate, Int. Cong. Forestry, etc, Paris, 00. M.A.A; Wash. Bot. Soc; Wash. Biol. Soc. Cornaceae; effect of copper-sulphate upon the germination of seed.

Evans, Dr. W(illiam) A(ugustus), 103 State St, Chicago, Ills. *Pathology.* Marion, Ala, Aug. 5, 65. B.S, Miss. Agr. Col, 83, M.S, 85; M.D, Tulane. Demonstrator *path, Col. Physicians and Surg, Illinois,* 91–95, *prof,* 95– Pathologist, Cook Co. Hosp; special lecturer, Milwaukee Med. Col. M.D, ad eundem, Illinois. Ass. Path. and Bact; Am. Med. Ass; Chicago Med. Soc. (pres.); Chicago Path. Soc. Tuberculosis; fat necrosis.

Everett, Prof. Walter G(oodnow), 116 Governor St, Providence, R. I. *Philosophy.* Rowe, Mass, Aug. 21, 60. A.B, Brown, 85, A.M, 88, Ph.D, 95; Berlin and Strasburg, 95–96. Instr. Greek and Latin, *Brown,* 90–95, assoc. prof. philos, 96–99, *prof. philos. and nat. theol,* 99– Philos. Ass; Psychol. Ass. Ethics and religion; history of skepticism.—Ethics; philosophy of religion; history of thought.

Evermann, Dr. Barton W(arren), 412 T St, N. W, Washington, D. C. *Ichthyology.* Monroe Co, Ia, Oct. 24, 53. Howard (Ind.), 70–72; Butler, 78–79; B.S, Indiana, 86, A.M, 88, Ph.D, 91. Teacher, pub. schools, Ind, 71–79; Cal, 79–81; supt. schools, Carroll Co, Ind, 83–85; prof. biol. and geol, Ind. State Nor. Sch, 86–91; *ichthyologist, U. S. Fish Commission, 91–; asst. in charge, Div. Scientific Inquiry, U. S. Bur. Fisheries, 03–; curator, Div. Fisheries, U. S. Nat. Mus, 05–* Special lecturer, Stanford, 93–94; lecturer, Cornell, 99–03; Yale Forest Sch, 04–; mem. U. S. Fur Seal Commission, 92. Gold medal, Paris Expos, 00. F.A.A; fel. Ornith. Union; Nat. Geog. Soc; Plant Preservation Soc; Wash. Acad; Cal. Acad; Ind. Acad; Wash. Biol. Soc. Geographic distribution of fishes; fishes of north and middle America; life histories of American fishes; the aquatic resources of the Hawaiian Islands.—Biological survey of Lake Maxinkuckee; natural history of the Salmonidae; life histories of the basses and sunfishes; the fishes of Columbia River basin and Tennessee; the food fishes of the Mississippi Valley and the Great Lakes; Alaska salmon fisheries; the fishes of the Philippines.

Ewell, Dr. Arthur W(oolsey), 2 State St, Worcester, Mass. *Physics.* Bradford, Mass, Oct. 20, 73. A.B, Yale, 97, Sloane fellow, 97–99, Ph.D, 99; Hopkins, 99–00; Berlin, 04. Asst. *physics,* Yale, 97–99; instr, *Worcester,* 00–04, *prof, 04–* Physical Soc. Optical properties of transparent bodies when subjected to torsion and other mechanical strains; elastic properties of jellies; optical properties of distorted jelly and glass; magnetic double refraction; electrolytic conduction.—Ozone.

Ewing, Dr. James, 256 W. 57th St, New York, N. Y. **Pathology.* Pittsburg, Pa, Dec. 25, 66. A.B, Amherst, 88, A.M, 91; M.D, Columbia, 91; Vienna, 95. Tutor histol, Columbia, 93–97, Clark fellow, 96–99, instr. clin. path, 97–98; *prof. path, Med. Col, Cornell, 99–* Ass. Path. and Bact; Am. Physicians; Soc. Exp. Biol. and Med; N. Y. Acad. Med; N. Y. Path. Soc; N. Y. Co. Med. Soc. Blood; ganglion cells; malaria; variola.—Variola; autointoxication.

Exner, Dr. Franz F(rederick), Carleton College, Northfield, Minn. *Chemistry.* Silesia, Austria, March 23, 68. A.B, Carleton, 95; Ph.D, Pennsylvania, 03. Teacher science and math, High Sch, Madelia, Minn, 95–98; science, Wilton, 98–00; instr. gen. chem, Pennsylvania, 01–02; *prof. chem. and physics, Carleton, 03–* Chem. Soc. Complex inorganic acids of WO_3, V_2O_5 and P_2O_5; purification of tungsten and its atomic weight; rapid precipitation of metals in an electrolytic way.—Halides of tungsten.

Eycleshymer, Prof. Albert Chauncey, St. Louis University, St. Louis, Mo. **Anatomy, Histology, Embryology.* Cambridge, N. Y, 67. B.S, Michigan, 91; fellow, Princeton, 91; fellow, Clark, 91–92; fellow, Chicago, 92–93, Ph.D, 94; Cambridge, England, 95–96; Austin fellow, Harvard Med. Sch, 00–01. Asst. animal morph, Michigan, 89, bot, 90; chief asst, Allis Lake Lab, 90–91; asst. biol, Chicago, 93–95, assoc. anat, 95–97, instr, 97–02, asst. prof, 02–03; *director, Anat. Dept, St. Louis, 03–* Lecturer human embryol, Rush Med. Col, 97–98, asst. prof, 98–99. M.A.A; Soc. Nat; Ass. Anat. Vertebrate embryology.

Eyerman, John, Oakhurst, Easton, Pa. *Chemistry, Mineralogy.* Easton, Jan. 15, 67. Lafayette, 84–87; Harvard, 87; Princeton, 88–96. Lecturer determinative miner, Lafayette, 87–92; assoc. ed, 'Jour. Anal. Chem'; 'Am. Geologist,' 88–98. F.A.A; Chem. Soc; Geol. Soc; Nat. Geog. Soc; fel. Am. Geog. Soc; Phila. Acad; fel. N. Y. Acad; Pa. Hist. Soc; British Ass; London Geol. Ass. Mineralogy; chemistry; geology; paleontology.—Mineralogy of Pennsylvania; Temnocyon; Hypotemnodon.

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Fairbanks, Prof. Arthur, 7 Bloomington St, Iowa City, Ia. *Greek, Philosophy.* Hanover, N. H. Nov. 13, 64. A.B, Dartmouth, 86; Ph.D, Freiburg, 90; fellow, Am. Sch. of Classical Studies, Athens, 98–99. Instr. Greek, Dartmouth, 86–87, 90–92; lecturer sociol. and comp. religion, Yale, 92–98; *prof. Greek lit. and archeol, Iowa, 00–* Managing ed, 'Classical Jour,' 05– Philol. Ass; Archeol. Inst. (pres, Ia. Soc, 02–); West. Philos. Ass. Dative case in Sophocles; Greek religion.—The White Lekythoi made at Athens in 5 and 4 B. C.

Fairbanks, Dr. H(arold) W(ellman), 1825 Arch St, Berkeley, Cal. *Geology, Physiography.* Conewango, N. Y, Aug. 29, 60. B.S, Michigan, 90; Ph.D, California, 96. Connected with Cal. State Mining Bur, 90–94; asst, U. S. Geol. Surv, 99–00; *independent research, 00–* Assoc. ed, 'Nature-Study Rev.' Geol. Soc; Geog. Ass; Nat. Geog. Soc; Cal. Acad. The geology and physiography of California.

Fairbanks, Prof. Henry, St. Johnsbury, Vt. *Numismatics, Mechanics.* St. Johnsbury, May 6, 30. A.B, Dartmouth, 53, A.M, 56; B.D, Andover Theol. Sem, 57. Congregational minister, 57–; prof. nat. philos, Dartmouth, 59–69; *v. pres,*

E. and G. Fairbanks and Co, 69– Trustee, Dartmouth, 70–05. Hon. Ph.D, Dartmouth, 80. F.A.A; Nat. Ass. Manufs. (v. pres.). Invented inductor current generator, etc.

Fairchild, David G(randison), U. S. Department of Agriculture, Washington, D. C. **Botany, Agriculture.* Agricultural College, Mich, April 7, 69. B.S, Kas. State Agr. Col, 88, M.S, 93; Naples Zool. Sta, 93; Breslau and Berlin, 94; Bonn, 95; Bintenzorg Bot. Gardens, 96. Second asst. pathologist, *U. S. Dept. Agr,* 89–92, first asst. pathologist, Div. Veg. Path, 92–97, special agent in charge, Sect. Seed and Plant Introduction, 97–98, *agr. explorer, 98–* Asst. to Barbour Lathrop on expeditions in search of valuable seeds and plants, 98–00, 01–03. F.A.A; Soc. Plant Morph. and Physiol; Pomol. Soc; Soc. Prom. Agr. Sci; Int. Ass. Bot. Plant introduction; plant diseases; microscopic fungi and marine Algae.—Introduction into America of valuable seeds and plants.

Fairchild, Prof. H(erman) L(eRoy), University of Rochester, Rochester, N. Y. **Geology.* Montrose, Pa, April 29, 50. B.S, Cornell, 74. Teacher, Wyoming Sem, Kingston, Pa, 74–76; lecturer, N. Y. City private schools, Cooper Union, etc, 77–88; *prof. geol, Rochester, 88–* F.A.A. (sec'y, Council, 93, gen. sec'y, 94, v. pres, 98); Geol. Soc. (sec'y, 90–); N. Y. Acad. (sec'y, 85–88); Rochester Acad. (pres, 89–01); Wash. Acad; hon. and cor. mem. of various other societies. Glacial geology of western New York.—Dynamic geology.

Fall, Prof. Delos, 1101 Michigan Ave, Albion, Mich. *Chemistry.* Ann Arbor, Mich, Jan. 29, 48. B.S, Michigan, 75, M.S, 82. Teacher science, High Sch, Ann Arbor, 71; principal, High Sch, Flint, 75–78; *prof.* science, *Albion,* 78–88, *chem, 88–;* state supt. pub. instruction, Mich, 00–04. Mem. State Board of Health, 88–00. Hon. Sc.D, Albion, 98. Nat. Educ. Ass; Pub. Health Ass. Education; sanitary science; assaying; coal and peat.—Raw materials and process of manufacture of Portland cement.

Fanning, J(ohn) T(homas), 330 Hennepin Ave, Minneapolis, Minn. *Hydraulics, Mechanics.* Norwich, Conn, Dec. 31, 37. Pub. and nor. schools. Practising civil and archit. engineer and inventor, 62–04. F.A.A; Civil Eng; Am. Water Works Ass. (past pres.); Pub. Health Ass; New Eng. Water Works Ass; Franklin Inst. Hydraulics; mechanics; engineering structures.

Farabee, Dr. William C(urtis), Peabody Museum, Cambridge, Mass. *Anthropology.* Washington, Pa, Feb. 7, 65. A.B, Waynesburg, 94, A.M, 95; A.M, Harvard, 00, fellow, 00–03, Ph.D, 03. Teacher, pub. schools, Pa, 86–90; principal, Burgettstown, Pa, 95–96; Acad, Jackson Center, Pa, 96–99; *instr. anthrop, Harvard, 03–* M.A.A; Anthrop. Ass; Ethnol. Soc; Folk-lore Soc; Nat. Geog. Soc. Archeology in Mississippi, New Mexico and Missouri; heredity as shown in anomalies.—Inheritance of albinic characters.

Fargis, Rev. Geo(rge) A(loysius), S. J, 30 W. 16th St, New York, N. Y. *Chemistry, Astronomy.* New York, July 29, 54. A.B, St. Francis Xavier, 73. *Teacher sciences, various colleges of Soc. of Jesus, 89–* Asst. astronomer, Georgetown Col. Observatory, 91–95. F.A.A. Astrophotography.—Photographic transits.

Faribault, E(ugène) Rodolphe, Geological Survey, Ottawa, Can. *Geology.* L'Assomption, Que, Nov. 4, 60. B.A.S, C.E, Laval, 82. *Field geologist, Can. Geol. Surv, 82–* Mem. Jury of Awards, Paris Expos, 00. Gold medal, Paris Expos, 00. Int. Geol. Cong, Paris, 00. Geol. Soc; Can. Min. Inst; N. S. Inst; hon. mem. N. S. Min. Soc. Geological survey, mapping and study of the gold fields of Nova Scotia.—Structure of the anticlinal folds and auriferous saddle-veins and their recurrence in depth.

Farlow, Prof. W(illiam) G(ilson), 24 Quincy St, Cambridge, Mass. **Cryptogamic botany.* Boston, Mass, Dec. 17, 44. A.B, Harvard, 66, M.D, 70; Strasburg, 72–73. Asst. prof. *crypt. bot, Harvard, 74–79, prof, 79–* LL.D, Harvard, 96; Glasgow, 01; Wisconsin, 04. Nat. Acad; F.A.A. (v. pres, 87, 98, pres, 04); Soc. Nat; Am. Acad; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; Mycol. Soc; Philos. Soc; Phila. Acad; London Linnean Soc; British Ass; cor. mem. Manchester (England) Lit. and Philos. Soc; Bot. Gesell; Soc. Ital. Crittogamol. Systematic algology and mycology.

Farnsworth, Prof. P(hilo) J(udson), Clinton, Ia. *Medicine, Geology, Anthropology.* Westford, Vt, Jan. 9, 30. A.B, Vermont, 54, A.M, 57; M.D, Col. Physicians and Surg, N. Y, 60. Practising physician, 63–70; prof. *mat. med. and therapeut, Iowa,* 70–95, *emer. prof, 95–* Lecturer diseases of children, Iowa, 75–95; asst. state geologist, Ia, 84–85. M.A.A; Geol. Soc; Am. Med. Ass; Am. Acad. Med; Iowa Med. Ass. Medicine; geology; Carboniferous deposit in the Mississippi valley; age of Mississippi River; Indian mounds along the upper Mississippi.

Farquhar, Dr. Edward, Patent Office Library, Washington, D. C. *Literature, Philosophy.* Sandy Spring, Md, Sept. 2, 43. Ph.D, Columbian, 94. *Asst. librarian, U. S. Patent Office, 65–* Instr. English lit, Columbian, 93, later prof. hist. Philos. Ass; Wash. Soc. Philos. Inquiry (sec'y). Elements of unity in the Homeric poems.

Farquhar, Henry, Bunker Hill Road, Brookland, D. C. *Political economy, Statistics.* Sandy Spring, Md, Aug. 27, 51. Cornell, 70. Asst. instr, Md. State Nor. Sch, 72; computer, U. S. Coast Surv, 72–94; asst. statistician, U. S. Dept. Agr, 95–97; *special agent, U. S. Census, 02–* F.A.A. (sec'y, I, 92, v. pres, 94); Econ. Ass; Statist. Ass; Acad. Polit. and Social. Sci; Nat. Geog. Soc; Wash. Econ. Soc; Wash. Philos. Soc; Wash. Soc. Philos. Inquiry. Connection between prices, etc, and rates of duty and monetary standards; economic statistics.

Farr, Dr. M(arcus) S(tults), 12 Maple St, Princeton, N. J. *Geology, Paleontology.* Cranbury, N. J, Feb. 19, 70. A.B, Princeton, 92, fellow, 92–93, M.S, 93; fellow, Chicago, 93–94, A.M, 94; Sc.D, Princeton, 96. Lab. asst. paleont, Princeton, 96–98; asst. zoologist, N. Y. State Mus, Albany, 98–00; *asst. geol. and curator vert. paleont, Princeton, 00–* M.A.A; assoc. Ornith. Union; Nat. Geog. Soc; hon. mem. Del. Valley Ornith. Club. Morphology and phylogeny of extinct vertebrates.—Cretaceous and early Tertiary fossil vertebrates of Montana; fossil birds of Patagonia; birds of New York.

Farrand, Prof. Livingston, Columbia University, New York, N. Y. **Anthropology, Psychology.* Newark, N. J, June 14, 67. A.B, Princeton, 88; M.D, Columbia, 91; Cambridge, 91–92; Berlin, 92–93. Instr. physiol. psychol, *Columbia,* 93–99, psychol, 99–01, adj. prof, 01–03, *prof. anthrop, 03–* F.A.A; Soc. Nat; Psychol. Ass. (sec'y, 95–04), fel. Ethnol. Soc. (sec'y, 99–); Folk-lore Soc. (pres, 03); Wash. Acad; fel. N. Y. Acad. Anthropology of American Indians.

Farrington, Dr. Oliver C(ummings), Field Columbian Museum, Chicago, Ills. **Geology, Mineralogy.* Brewer, Me, Oct. 9, 64. B.S, Maine State, 81, M.S, 88; Ph.D, Yale, 91. Teacher science, Maine Academies, 83–87; asst. miner. and biol, Yale, 88–91; miner, U. S. Nat. Mus, 93–94; *curator geol, Field Columbian Mus, 94–* Professorial lecturer determinative miner, Chicago, 95–03; collaborator, Mines and Mining, Paris Expos, 00; mem. Jury Awards, La. Purchase Expos, 04. Int. Cong. Arts and Science, St. Louis, 04 (chairman, Sect. Petrol. and Miner.). Geol. Soc; Am. Alpine Club. Crystallography; meteorites.—Composition of cosmic matter; geological relations of meteorites; crystal functions.

Farwell, O(liver) Atkins, 784 Congress St, E, Detroit, Mich. *Botany.* Boston, Mass, Dec. 13, 67. Mich. Nor. Sch, 90–92. Teacher, pub. schools, 89–90; *curator, Herbarium, and librarian, Parke Davis and Co, 92–* Bot. Cent. States; Mich. Acad. Michigan flora.

Fassig, Dr. Oliver L(anard), Johns Hopkins University, Baltimore, Md. *Meteorology.* Columbus, O, April 5, 60. B.S, Ohio State, 82; Yale, 86–87; Berlin, 96–97; Ph.D, Hopkins, 99. *Sect. director, U. S. Weather Bur, 83–;* instr. *meteorol, Hopkins,* 97–01, *assoc, 01–* Meteorologist, Md. State Weather Service, 00– F.A.A; Meteor. Gesell. Bibliography and history of meteorology; climatology.—The weather and climate of Baltimore and vicinity.

Faught, Prof. J(ohn) B(rookie), 1312 Presque Isle Ave, Marquette, Mich. *Mathematics.* Oaktown, Ind, Feb. 28, 63. A.B, Indiana, 93, A.M, 95; Chicago, 96–97; Ph.D, Pennsylvania, 99. Prof. *math,* Vincennes, 93–94; asst. prof, Indiana, 94–00; *prof, Northern State Nor. Sch, Mich, 00–* M.A.A; Math. Soc.

Faull, Dr. J(oseph) Horace, University of Toronto, Toronto, Can. *Botany.* L'Anse, Mich, May 3, 70. A.B, Toronto, 98, grad. student, 00–01; Austin fellow, Harvard, 01–03, Ph.D, 04. Master math, Albert (Can.), 98–00; *lecturer bot, Toronto, 02–* M.A.A; Soc. Nat; Bot. Cent. States; Can. Inst. Anatomy of ferns; cytology of fungi.

Faunce, Prof. Linus, 119 Bellevue St, West Roxbury, Mass. *Drawing, Descriptive geometry.* Kingston, Mass, Oct. 16, 54. B.S, Mass. Inst. Tech, 77. Railway positions, 78–84; asst. prof. *drawing, Mass. Inst. Tech,* 84–96, *assoc. prof, 96–* Mass. Inst. Tech. Soc. Arts (sec'y, 85–91).

Faxon, C(harles) E(dward), Park Lane, Jamaica Plain, Mass. *Botanical illustration.* Roxbury, Mass, Jan. 21, 46. B.S, Harvard, 67. *Asst. in charge, Arnold Arboretum, Harvard, 82–* Hon. A.M, Harvard, 97. Soc. Foresters; Am. Acad; Boston Soc. Nat. Hist. Botanical illustration.—Illustrations of ligneous plants.

Faxon, Dr. Walter, Lexington, Mass. **Zoology.* A.B, Harvard, 71, B.S, 72, Sc.D, 78. Instr. nat. hist, *Harvard,* 72–73, asst, Zool. Lab, 73–77, asst. prof. zool, 81–86, *asst. in charge of Mollusca and Crustacea, Mus. Comp. Zool, 86–* Fel. Ornith. Union; Wash. Acad; Wash. Biol. Soc.

Fay, Dr. Henry, Massachusetts Institute of Technology, Boston, Mass. **Chemistry, Metallography.* Williamsburg, Pa, Jan. 12, 68. A.B, Lafayette, 89, A.M, 92; Ph.D, Hopkins, 95. Lecture asst, Hopkins, 93–95, instr. anal. chem, *Mass. Inst. Tech,* 95–00, asst. prof. anal. chem. and metallog, 00–05, *assoc. prof. anal. chem, 05–* Chem. Soc; Int. Ass. Testing Materials; Chem. Gesell. Analytical chemistry; properties of metals and alloys.—Effect of heat treatment on various kinds of steel and iron.

Fay, Prof. Irving W(etherbee), 177 Woodruff Ave, Brooklyn, N. Y. *Chemistry.* Natick, Mass, Nov. 30, 61. A.B, Harvard, 86; Ph.D, Berlin, 96. Instr. sciences, Montpelier Sem, 86–87; chem. and physics, Belmont Sch, Cal, 87–93; *prof. chem,* Ohio (Athens), 96–97; *Brooklyn Polytech, 97–* Mem. Committee of Ten (Physics, Chem. and Astron.), Nat. Educ. Ass, 92. Chem. Soc; Chem. Gesell. Sugars and related acids and alcohols.—Temperature of reduction of metallic oxids by hydrogen and carbon monoxid; influence of concentrated sulphuric acid upon sulphate salts containing water of crystallization.

Felt, Prof. E(phriam) P(orter), Geological Hall, Albany, N. Y. *Entomology.* Salem, Mass, Jan. 7, 68. Mass. Agr. Col, 91; B.S, Boston, 91; fellow, Cornell, 92–93, Sc.D, 94. Teacher science, Clinton Liberal Inst, 93–95; asst. to state entomologist, *N. Y,* 95–98, *state entomologist, 98–* Entom. ed, 'Country Gentleman', 98–; consulting entomologist, N. Y. Agr. Soc. Gold medal and three silver medals, Pan-Am. Expos, 01. F.A.A; Ass. Econ. Entom. (pres, 02); Soc. Prom. Agr. Sci; cor. mem. N. Y. Entom. Soc; Wash. Entom. Soc; Soc. entom. de France. Crambidae; economic entomology; shade and forest tree insects.—Life

histories and habits of insects injuring shade and forest trees in New York; mosquitoes.

Fenneman, Prof. N(evin) M(elanchthon), University of Wisconsin, Madison, Wis. *Geology.* Lima, O, Dec. 26, 65. A.B, Heidelberg (Ohio), 83; A.M, Chicago, 00, Ph.D, 01. *Prof.* physical sciences, Colo. State Nor. Sch, 92–00; *geol,* Colorado, 02–03; *Wisconsin, 03–* In charge, Dept. Geol, summer session, Wisconsin, 00–03; asst. geologist, U. S. Geol. Surv. F.A.A; Geol. Soc; Geog. Ass; Nat. Geog. Soc; Colo. Sci. Teachers' Ass. (pres, 00). Work of waves on shores; survey of Wisconsin lakes; oil fields of Boulder, Colo, and of Texas.—Louisiana and Texas coastal plain; geological map of vicinity of Boulder, Colo; coal deposits of northwestern Colorado.

Fenner, R(obert) Coyner, 531 E. State St, Ithaca, N. Y. *Physics.* Baltimore, Md, Aug. 28, 80. M.E, Cornell, 03. *Instr. physics, Cornell, 03–* M.A.A; Physical Soc. Thermal properties of liquid air and gases at the temperature of liquid air.—Specific heats of gases at low temperatures.

Ferguson, Alexander McGowen, University of Texas, Austin, Tex. *Botany.* Belton, Tex, Jan. 7, 74. B.S.H, Tex. Agr. and Mech. Col, 94, M.S, 96; Mo. Bot. Garden, 97–98; Cornell, 01– Asst. prof. hort. and mycol, Tex. Agr. and Mech. Col, 99–00; *instr. bot, Texas, 00–* Special agent, U. S. Dept. Agr, 03–04. F.A.A; Pomol. Soc; Soc. Hort. Sci; fel. Tex. Acad. Crotons of the United States; ant fungus gardens.—Embryology of Ephedra; plant physiology; fungi cultivated by ants of Texas; flora of Austin quadrangle; mushrooms; plant breeding.

Ferguson, Dr. J(eremiah) S(weetser), 330 W. 28th St, New York, N. Y. *Histology, Anatomy.* Searsport, Me, May 31, 71. B.S, Maine, 89, M.S, 92; M.D, N. Y. Univ, 92. Asst. *histol,* N. Y. Univ, 92–96, *instr,* 96–98; *Med. Col, Cornell, 98–* Tutor physiol, N. Y. Univ, 97–98. Ass. Anat; N. Y. State Med. Ass; N. Y. Co. Med. Ass; N. Y. Co. Med. Soc; N. Y. Acad. Med; N. Y. Path. Soc. Thyroid and adrenal glands.—Parathyroid glands.

Ferguson, Dr. Margaret C(lay), Wellesley, Mass. *Botany.* Phelps, N. Y, Aug. 20, 63. Wellesley, 89–91; B.S, Cornell, 99, fellow, 99–00, Ph.D, 01. Teacher and principal, pub. schools, 86–88; Dept. Science, Harcourt Place Sem, Gambier, O, 92–93; instr. *bot, Wellesley,* 94–96, 02–04, *assoc. prof. and head, Dept. Bot, 04–* Asst. bot, Summer Sch, Cornell, 01, 02, instr, 03, 04. Soc. Plant Morph. and Physiol; Boston Soc. Nat. Hist. Fertilization and related phenomena; origin of germ cell in Pinus; the physiology of the germination of the spores of basidiomycetous fungi; spongy tissue of Strasburger; life history of Pinus.

Ferguson, Dr. Meade, Blacksburg, Va. *Bacteriology.* Appomattox, Va, March 17, 69. B.S, Va. Polytech. Inst, 96, M.S, 98; Ph.D, Göttingen, 02. *Assoc. prof. bacter, Va. Polytech. Inst, 02–* Consulting bacteriologist, Norfolk and West. R. R. Soc. Bact; Micros. Soc. Fermentation and decomposition of milk; nitrogen assimilating and denitrifying bacteria.—Soil inoculation.

Fergusson, S(terling) P(rice), Blue Hill Observatory, Hyde Park, Mass. *Meteorology, Mechanics.* Dixon's Spring, Tenn, Nov. 8, 68. Grammar sch. *Asst. in charge of instruments, Blue Hill Observatory, 87–* Boston Sci. Soc. Anemometry; apparatus for meteorology and aeronautics.—Errors of absorption hygrometers; meteorological exploration of the air with kites.

Fernald, Prof. C(harles) H(enry), Amherst, Mass. **Entomology.* Mt. Desert, Me, March 16, 38. A.M, Bowdoin, 71; Ph.D, Maine, 86. Principal, Litchfield Acad, Me, 65–66; Houlton Acad, Me, 66–71; *prof.* nat. hist, Maine, 71–86; *zool, Mass. Agr. Col, 86–* Acting pres, Mass. Agr. Col, 91–92. Ass. Econ. Entom. (pres, 96); Boston Soc. Nat. Hist; fel. London Entom. Soc. Insects; Crambidae and Pterophoridae of North America.—Pyralidae of North America; Tortricidae.

Fernald, Dr. H(enry) T(orsey), Amherst, Mass. *Entomology.* Litchfield, Me, April 17, 66. B.S, Maine, 85; Wesleyan, 85–86; M.S, Maine, 88; Ph.D, Hopkins, 90. Prof. zool, Pa. State, 90–99; state zoologist, Pa, 98–99; *prof. entom, Mass. Agr. Col, 99–* State nursery inspector, Mass. Soc. Nat; Ass. Econ. Entom. Histology, embryology and economic problems concerning insects.—Spheeidae of America.

Fernald, Prof. M(erritt) C(aldwell), 54 Main St, Orono, Me. *Philosophy.* South Levant, Me, May 26, 38. A.B, Bowdoin, 61; Harvard, 63–64; A.M, Bowdoin, 64. Prof. math. and physics and acting pres, Maine State, 68–71, prof. math. and physics, 71–79, pres, 79–93, *emer. prof. philos, Maine, 96–* Hon. Ph.D, Bowdoin, 81, LL.D, 02. Nat. Educ. Ass; Social Sci. Ass. Education; physics; psychology.

Fernald, Prof. M(erritt) L(yndon), 15 Ware Hall, Cambridge, Mass. *Botany.* Orono, Me, Oct. 5, 73. B.S, Harvard, 97. *Asst, Gray Herbarium, Harvard, 91–;* instr. *bot, Harvard,* 02–05, *asst. prof, 05–* Instr. bot, Alstead Sch. Nat. Hist, N. H, 99–01; assoc. ed, 'Rhodora,' 99– Fel. Am. Acad; New Eng. Bot. Club. Relationships and distribution of higher plants of North America; relations of North American and old world plants; systematic and geographic botany of North America, especially New England and eastern Canada.

Fernekes, Dr. G(ustave), Box 125, Houghton, Mich. *Chemistry.* Milwaukee, Wis, Feb. 10, 78. B.S, Wisconsin, 00; Berlin, 00–02; fellow, Wisconsin, 02–03, Ph.D, 03. *Instr. quant. anal, Mich. Col. Mines, 03–* Asst. instr, Wisconsin. Action of amalgams on solutions; analytical chemistry; catalytic reactions.—Action of mercuric chlorid on potassium ferrocyanid.

Fernow, Prof. B(ernhard) E(duard), Ithaca, N. Y. *Forestry.* Inowraclaw, Prussia, Jan. 7, 51. Forest Acad, Münden, 70–73; Königsberg, 74.

Chief, Forestry Div, U. S. Dept. Agr, 86–98; director, N. Y. State Col. Forestry, 98–03. Hon. curator, Nat. Mus, 87–; mem. Jury of Awards, Columbian Expos, 93; chief, Forestry Dept, Atlanta Expos, 95; mem. Jury of Awards, Pan-Am. Expos, 01; La. Purchase Expos, 04. LL.D, Wisconsin, 96; Queen's (Can.), 03. F.A.A. (sec'y, F, 88, I, 90, 91, v. pres, 95); Forestry Ass. (v. pres, 98–04); Soc. Prom. Agr. Sci; life mem. Min. Eng; Ass. Protection of Adirondacks; British Arboric Soc; hon. mem. St. Petersburg Acad; etc. Forestry; timber physics; economics; forest meteorology.

Ferrin, Pres. W(illiam) N(elson), Forest Grove, Ore. *Mathematics.* Barton, Vt, Oct. 11, 54. A.B, Vermont, 75, A.M, 78. Instr. *math, Pacific,* 77–81, *Vermont prof, 81–,* dean, Acad. Faculty, 00–03, *pres, 03–* Hon. LL.D, Vermont, 02. Math. Soc.

Ferris, Dr. H(arry) B(urr), 118 York St, New Haven, Conn. *Anatomy, Histology, Embryology.* Old Greenwich, Conn, May 21, 65. A.B, Yale, 87, M.D, 90. Instr. *anat, Med. Dept, Yale,* 92–94, asst. prof, 94–96, *prof, 96–* Collaborator, 'Am. Jour. Anat.' Soc. Nat; Ass. Anat; Soc. Zool; Micros. Soc; Conn. Acad; Conn. Med. Soc; New Haven City and Co. Med. Societies. Mitosis in cancer.—Double optic atrophy, tracing of optic tracts; early formation of the Wolffian duct in the chick.

Ferry, Prof. E(rvin) S(idney), 622 Ferry St, Lafayette, Ind. *Physics.* Croydon, N. H, June 14, 68. B.S, Cornell, 89, grad. student, 91–93; Hopkins, 93–94; Upsala, 97–98. Prof. nat. science, Kalamazoo, 89–91; instr. *physics,* Wisconsin, 95–99; *prof, Purdue, 99–* Physical Soc; Astron. and Astrophys. Soc; Electrochem. Soc. Radiation; physiological optics; specific inductive capacity.—Electrochemistry.

Ferry, Prof. Frederick C(arlos), Williamstown, Mass. *Mathematics.* Braintree, Vt, Jan. 22, 68. A.B, Williams, 91, A.M, 94; A.M, Harvard, 95; Ph.D, Clark, 98; Christiania, 98–99. Instr. math. and classics, *Williams,* 91–94, asst. prof. *math,* 99–02, *prof, 02–,* dean of Faculty, 02–03, *dean of Col, 03–* Math. Soc. Geometry; the special geometries of particular surfaces.—Geometry on the crunodal cubic cone and on the cubic scroll of the first kind and of the second kind.

Fessenden, Prof. R(eginald) A(ubrey), National Electric Light Company, Eighth and Water Sts, Washington, D. C. **Physics, Engineering.* Milton, Que, Oct. 6, 66. Bishop's Col, Que. Principal, Whitney Inst, Bermuda, 85–86; inspecting engineer, Edison Machine Works, 86–87; head chemist, Edison Lab, 87–90; electrician, Westinghouse Elec. and Mfg. Co, 90–91; prof. elec. eng, Purdue, 92–93; elec. eng. and postgrad. math, Western Univ. of Pa, 93–00; *special agent, U. S. Weather Bur, 00–* Chemist, Stanley Elec. Co, 92–93. F.A.A. (sec'y, B, 00); Elec. Eng; Nat. Geog. Soc; Soc. Prom. Quaternions; West. Pa. Soc. Eng. (sec'y); Wash. Philos. Soc; British Ass. Electrical theory of matter; nature of electricity and magnetism; nature of gravitation and inertia; hysteresis in social, moral and economic functions; design of electrical machines, instruments and methods; development of qualitative mathematics; electric radiation; magnetism; electromagnetic rotation of light.—Velocity of light in electrostatic field; wireless telegraphy; economic hysteresis as applied to tariff schedules.

Fewkes, Dr. J(esse) Walter, Bureau of American Ethnology, Washington, D. C. **Ethnology.* Newton, Mass, Nov. 14, 50. A.B, Harvard, 75, A.M, Ph.D, 77; Leipzig, 78–80. Asst, Mus. Comp. Zool, Harvard, 81–89; ed, 'Jour. of Ethnol. and Archeol,' 90–94; *ethnologist, Bur. Am. Ethnol, 95–* F.A.A; Soc. Nat; Folk-lore Soc; fel. Am. Acad; Wash. Anthrop. Soc; Anthrop. Gesell. American archeology and ethnology.

Fiebeger, Col. G(ustave) J(oseph), West Point, N. Y. *Engineering.* Akron, O, May 9, 58. Grad, U. S. Mil. Acad, 79, Eng. Sch. of Application, 79–82. Officer, Corps of Engineers, U.S.A, 79–96; instr. and later asst. prof. *eng, U. S. Mil. Acad,* 83–88, *prof, 96–* Mem. Board of Trustees, Thayer Eng. Sch, Dartmouth. Civil Eng.

Field, Dr. Cyrus W(est), 1190 Madison Ave, New York, N. Y. *Pathology, Bacteriology.* New York, April 27, 78. M.D, Yale, 00. Asst, Path. Lab, Presbyterian Hosp, N. Y. City, 00–03; *bacteriologist, Research Lab, Dept. Health, N. Y. City, 03–; prof. path, Fordham, 05–* Tutor path, Columbia, 02. Ass. Path. and Bact; Soc. Exp. Biol. and Med; N. Y. Path. Soc. Tetanus toxin; etiology of scarlet fever and measles; typhoid infection from oysters.

Field, Dr. George W(ilton), Sharon, Mass. **Biology.* North Bridgewater, Mass, Sept. 29, 63. A.B, Brown, 87, A.M, 90; Ph.D, Hopkins, 92; Smithsonian Table, Naples Zool. Sta. and Munich, 92–93. Asst. biol, Hopkins, 91–92; assoc. prof. cellular biol, Brown, 93–96; biologist, R. I. Agr. Exp. Sta, 96–01; instr. econ. biol, Mass. Inst. Tech, and director, Sharon Biol. Observatory, 01; biologist, *Mass. Commission on Fisheries and Game,* 03, *chairman, 04–* M.A.A; Soc. Nat; Soc. Zool; Mass. Audubon Soc. (director); British Ass. Morphology and physiology of echinoderms; planktology; biology of birds.—Factors which determine sex and the secondary sex characteristics; removal of the odors and tastes in drinking water due to the presence of micro-organisms; biology of edible fish and shell-fish.

Field, Dr. Herbert Haviland, Kölliker Str. 9, Zürich, Switzerland. *Zoology, Anatomy.* Brooklyn, April 25, 68. Brooklyn Polytech, 82–86; A.B, Harvard, 88, A.M, 90, Ph.D, 91; Freiburg, 91–92; Leipzig, 92–93; Paris, 93–95. *Director, Concilium Bibliographicum, 95–* Hon. asst. zool, Univ. Mus, Harvard, 02– Library Ass; Zool. Gesell; Anat. Gesell; Soc. zool. de France; Schweiz. Nat. Gesell; hon. mem. Leipzig Nat. Gesell; Zürich Nat. Gesell. De-

velopment of the pronephric system, the vascular system and the spinal column; pronephros in Amphiuma; lymphatics of the frog; microscopic technique.—Scientific bibliography.

Field, Dr. Peter, 935 Greenwood Ave, Ann Arbor, Mich. *Mathematics.* Mitchell Co, Ia, Sept. 1, 76. B.S, Minnesota, 96, M.S, 97; fellow, Cornell, 98–99, Ph.D, 02. Prof. *math,* Carthage, 99–03; *instr, Michigan, 03–* Asst. math, Cornell, 01–02. Math. Soc. Forms of quintic curves; infinite branches of plane curves which have no point singularities.—Plane quintic curve with five real cusps.

Fields, Dr. J(ohn) Charles, 62 Sussex Ave, Toronto, Can. *Mathematics.* Hamilton, Can, May 14, 63. A.B, Toronto, 84; fellow, Hopkins, 85–86, fellow by courtesy, 86–89, Ph.D, 87; Paris, Göttingen and Berlin, 93–00. Prof. *math,* Allegheny, 89–92; *special lecturer, Toronto, 02–* Math. Soc; Soc. math. de France. Algebraic functions and Abelian integrals.—Theory of the algebraic functions of one or more variables; theory of algebraic numbers.

Filkins, Prof. Claude W(illiam) L(eroy), Colorado School of Mines, Golden, Colo. *Mathematics, Civil engineering, Astronomy.* Erie, Pa, Aug. 25, 70. C.E, Cornell, 93, M.C.E, 94, candidate for Ph.D. Head, Math. Dept, St. John's Mil. Acad, 95; instr. math. and drafting, Adelphi, 95–98; *civil eng,* Cornell, 98–02; *prof, Colo. Sch. of Mines, 02–* Practising engineer; prof. mech, Summer Sch, Cornell, 03. Geodesy; astronomy; least squares; stresses and strains in circular hoops.—The eccentricity of a determination of the temporary zeros of the microscopes.

Finch, J(ohn) W(ellington), 46 Jacobson Building, Denver, Colo. *Geology.* Earlville, N. Y, Nov. 3, 73. A.B, Colgate, 97, A.M, 98; fellow, Chicago, 98–99. Instr. geol. and physics, Colgate, 98; geol, Chicago, 99; *state geologist, Colo, 01–* Consulting geologist, various companies. M.A.A; Min. Eng; Colo. Sci. Soc.

Findlay, Dr. William, McMaster University, Toronto, Can. *Mathematics.* Glanford, Ont, June 21, 74. A.B, McMaster, 96, A.M, 98; Ph.D, Chicago, 01. Tutor *math,* Barnard, Columbia, 01–05; *prof, McMaster, 05–* Math. Soc. Finite groups.

Fine, Prof. H(enry) B(urchard), Princeton, N. J. **Mathematics.* Chambersburg, Pa, Sept. 14, 58. A.B, Princeton, 80; Ph.D, Leipzig, 85. Tutor *math, Princeton,* 81–84, asst. prof, 85–90, *prof, 91–, dean, 03–* Math. Soc; Philos. Soc. Singularities of curves; functions defined by differential equations; number concept.

Fink, Prof. Bruce, Grinnell, Ia. *Botany.* Blackberry, Ills, Dec. 22, 61. M.S, Illinois, 94; A.M, Harvard, 96; Ph.D, Minnesota, 99. *Prof.* biol, Upper Iowa, 92–03; *bot, Iowa (Grinnell), 03–* Townsend scholar and instr. bot, Harvard, 95; lichenist, Minn. Bot. Surv, 96– F.A.A; Soc. Nat; Mycol. Soc; Bot. Cent. States; Iowa Acad. (pres, 04). Taxonomy of fungi and lichens; ecology of lichens; plant embryology.—Structure of thallus in Peltigera; North American Clodonias; Minnesota lichens.

Finkel, Prof. B(enjamin) F(ranklin), 1227 Clay St, Springfield, Mo. *Mathematics, Physics.* Fairfield Co, O, July 5, 65. M.S, Ohio Nor. Univ, 88; Chicago, 95–00; A.M, Pennsylvania, 03, grad. student, 03–04. Teacher, pub. schools, Ohio, 84–88; instr. math, Fostoria Acad, 89; principal, Gibson Acad, Tenn, 90; supt. schools, North Lewisburg, O, 90–92; instr. math, Kidder Inst, 92–95; *prof. math. and physics, Drury, 95–* Ed, 'Am. Math. Monthly', 94– Math. Soc; London Math. Soc. Mathematics.

Finlay, Dr. Charles J(ohn), 128 Reina St, Havana, Cuba. *Medicine.* Puerto-Principe, Cuba, Dec. 3, 33. M.D, Jefferson Med. Col, 55; M.D, Havana, 57. Chairman, Commission Infectious Diseases, Havana, 99–02; *chief health officer, Cuba, 02–* Hon. Sc.D, Jefferson Med. Col, 02. Delegate, Int. Sanitary Conv, Wash, 02. Pub. Health Ass. (pres, 04); Soc. Tropical Med; Phila. Col. of Physicians; Havana Acad; Havana Soc. Estudios Clinicos; Soc. de Méd. trop. de Paris; London Soc. Arts. History, etiology and pathology of yellow fever.—Rationale of immunisation; toxin and antitoxin formation.

Fireman, Dr. Peter, Cosmos Club, Washington, D. C. **Chemistry.* Lipovetz, Russia, April 4, 63. Odessa, 81; Königsberg, Zürich and Bern, 88–93, Ph.D, Bern, 93. Asst. chem, Columbian, 93–95, instr, 95–98, asst. prof, 98–01; prof, Mo. Sch. Mines, 01–02; *chem. geologist, U. S. Nat. Mus, 01–, in charge, Chem. Research Lab, Alexandria, Va, 04–* M.A.A; Chem. Soc; Wash. Chem. Soc; Wash. Philos. Soc. Preparation of organic phosphins; physical chemistry; action of ammonium chlorid on certain chlorids.—Action of phosphonium iodid on polychlorids; replacement of three atoms of hydrogen by one of nitrogen in organic compounds.

Firmstone, F(rank), Easton, Pa. *Metallurgy.* Easton, Aug. 31, 46. B.M.E, Polytech. Col. of Pa, 65. Asst. manager, Glendon Iron Works, 67–77, manager, 77–87; pres, Cranberry Iron Co, 89–97. F.A.A; Min. Eng. Metallurgy of iron; management of iron blast-furnaces.

Fischer, Louis A(lbert), 923 Massachusetts Ave, N. W, Washington, D. C. *Physics.* Washington, Jan. 4, 64. B.S, Columbian, 03. Adjuster weights and measures, U. S. Office Weights and Measures, 90–01; *assoc. physicist in charge, Div. Weights and Measures, Bur. Standards, 01–; instr. physics, George Washington, 01–* Mem. Assay Commission, 04. M.A.A; Physical Soc; Wash. Philos. Soc. (Gen. Committee). Weights and measures, especially length measures.—Properties of nickel steels for length standards.

Fischer, Dr. Martin H(enry), 2181 Green St, San Francisco, Cal. *Physiology, Medicine.* Garten, Germany, Nov. 10, 79. Fellow, Rush Med. Col, 00, M.D, 01. Student asst. path, Rush Med. Col, 98–00; asst. physiol, Chicago, 00–01, assoc, 01–02; instr, California, 02–03,

asst. prof, 03–05. Physiol. Soc; assoc. Am. Med. Ass; Cal. Acad. Med; Chicago Path. Soc. Histology of motor ganglion cells; false diverticula of the intestine; toxic effects of formaldehyde and formalin; artificial parthenogenesis; rearing of parthenogenetic larvae; length of life of sperm in sea water; production and suppression of glycosuria in rabbits through salts; theory of fertilization.

Fischer, Prof. Richard, Madison, Wis. *Chemistry.* New Ulm, Minn, Nov. 18, 69. Ph.C, Michigan, 92, B.S, 94; Ph.D, Marburg, 00. Asst. chem, Michigan, 92–94; instr. *pharmacy, Wisconsin, 94–98, asst. prof, 00–* State chemist. M.A.A; Chem. Soc; Pharmaceut. Ass; Wis. Pharmaceut. Ass; Wis. Acad; Chem. Gesell. Chemistry of alkaloids; chemistry of foods.

Fish, Prof. J(ohn) C(harles) L(ounsbury), Palo Alto, Cal. *Geodesy, Topography, Railways.* Collins, O, June 3, 70. C.E, Cornell, 92. Asst. engineer, Sandusky and Columbus R. R, 91; instr. *civil eng,* Cornell, 92–93; asst. prof, *Stanford, 93–98, assoc. prof, 98–* Recorder, U. S. Coast and Geod. Surv, 99; field asst, U. S. Geol. Surv, 00. Assoc. mem. Civil Eng. Economic theory of railway location.

Fish, Prof. P(ierre) A(ugustine), 915 E. State St, Ithaca, N. Y. **Comparative physiology, Pharmacology.* Chatham, N. Y, Feb. 17, 65. B.S, Cornell, 90, Sc.D, 94, D.V.M, 99. Instr. physiol, vert. zool. and neur, Cornell, 90–95; asst, Bur. Animal Indust, 95–96; asst. prof. *comp. physiol. and pharmacol, Cornell, 96–02, prof, 02–* Instr, Woods Hole, 91–95. F.A.A; Soc. Zool. Comparative physiology; pharmacology.

Fishburne, Col. E(dward) B(ell), Jr, Blackstone, Va. *Mathematics.* Charleston, S. C, Dec. 16, 73. B.S, S. C. Mil. Acad, 93; Ph.B, A.M, Ills. Wesleyan, 98. Principal pub. sch, Summerville, S.C, 94–96; instr. math. and physics, Mil. Sch, Waynesboro, Va, 96–00; *principal and instr. math, Hoge Memorial Mil. Acad, 00–* M.A.A; Math. Soc; assoc. Civil Eng. Pure mathematics.

Fisher, A(lbert) K(enrick), U. S. Department of Agriculture, Washington, D. C. *Biology.* Sing Sing, N. Y, March 21, 56. Col. Physicians and Surg, Columbia, 76–79. Asst. ornithologist, *U. S. Dept. Agr,* 85–96, asst. biologist, 96–02, *asst. chief, Biol. Surv, 02–* Fel. Ornith. Union; cor. mem. Nuttall Ornith. Club; Wash. Acad; Wash. Biol. Soc; cor. mem. N. Y. Linnean Soc. Geographic distribution and natural history of vertebrates.

Fisher, Miss Elizabeth F(lorette), 14 Abbott St, Wellesley, Mass. *Geology, Geography.* Boston, Nov. 26, 73. B.S, Mass. Inst. Tech, 96. *Instr. geol. and geog, Wellesley, 94–* Int. Geol. Cong, St. Petersburg, 97. Nat. Geog. Soc; Boston Teachers Geog. Club (pres, 00–01). Geological history of Lake Cochituate.—Ontography; river terraces.

Fisher, Prof. George E(gbert), Lansdowne, Pa. *Mathematics.* Westerlo, N. Y, April 20, 63. Union, 80–82; A.B, Cornell, 87; A.M, Pennsylvania, 93; Berlin, 94; Ph.D, Pennsylvania, 95. Instr. *math,* Cornell, 87–89; *asst. prof, Pennsylvania, 89–* F.A.A; Math. Soc; Math. Verein; Circolo Mat. di Palermo. Algebra; the theory of functions of a complex variable.—Some topics in invariant theory.

Fisher, Henry W(right), 5403 Friendship Ave, Pittsburg, Pa. *Electrical engineering.* Youghal, Ireland, Jan. 31, 61. M.E, Cornell, 88. Asst. engineer, Bergmann and Co, 88; *S. V. Cable Co,* 88–99, *chief elec. engineer and supt, Pittsburg factory, 99–* Elec. Eng; West. Pa. Eng. Soc. (past pres.). Electric cables; glucenum by electrometallurgy.—Heating of electrical cables in ducts by electricity; insulation and electrostatic temperature coefficients of different cables.

Fisher, Prof. Irving, 460 Prospect St, New Haven, Conn. *Political economy.* Saugerties, N. Y, Feb. 27, 67. A.B, Yale, 88, Ph.D, 91. Tutor math, *Yale,* 91–93, asst. prof, 93–95, *polit. econ,* 95–98, *prof, 98–* F.A.A; Math. Soc; Econ. Ass; Acad. Polit. and Social Sci; Statist. Ass; Conn. Acad; Wash. Acad; fel. Royal Statist. Soc; British Econ. Ass. Mathematical economics; statistics.—Capital and interest; circulation of money.

Fisher, Prof. James, Jr, Houghton, Mich. *Mathematics, Physics.* Hancock, Mich, March 29, 73. E.M, Mich. Col. Mines, 93; Cornell, 99. Draftsman, Mich. Col. Mines, 93–94; Hodge Iron Works, Hancock, Mich, 94–95; instr. *math. and physics, Mich. Col. Mines,* 95–99, *prof, 99–* M.A.A; Eng. Educ; Lake Superior Min. Inst. Experiments with long pendulums, 5,000 feet; determination of average density of the earth and gravity gradient.

Fisher, Prof. R(ichard) T(hornton), Cambridge, Mass. *Forestry.* Brooklyn, N. Y, Nov. 9, 76. A.B, Harvard, 98; M.F, Yale, 01. Special agent, U. S. Biol. Surv, 98; asst. English, Harvard, 99; *field asst, Bur. Forestry, U. S. Dept. Agr, 01–; asst. prof. forestry, Harvard, 05–* Soc. Foresters. The redwood; the woodlot.

Fisher, Walter K(enrick), Palo Alto, Cal. *Zoology.* Ossining, N. Y, Feb. 1, 78. A.B, Stanford, 01, A.M, 03. Special field naturalist, U. S. Biol. Surv, 97–01; asst. *zool, Stanford,* 02–05, *acting instr, 05–* Asst, 'Albatross' Exped, U. S. Fish Commission, 02, 04; ed, 'The Condor,' 03– Mem. Ornith. Union; Cooper (Cal.) Ornith. Club. Anatomy of gastropods; ornithology.—Enteropneusta; Echinodermata of the Hawaiian Islands; deep sea Echinodermata of the western coast of North America.

Fiske, Prof. Thomas S(cott), Columbia University, New York, N. Y. **Mathematics.* New York, May 12, 65. A.B, Columbia, 85, A.M, 86, fellow, 85–88, Ph.D, 88. Tutor *math, Columbia,* 88–91, instr, 91–94, adj. prof, 94–97, *prof, 97–* Acting dean, Barnard, Columbia, 99; sec'y, Col. Entrance Exam. Board, 01– F.A.A; Math. Soc. (sec'y, 88–95, ed, 'Bul,' 91–99, v. pres, 98–01, ed, 'Trans,' 99–, pres, 02–04); Ass.

Teachers Math. in Middle States and Md. (pres, 04–); London Math. Soc. Theory of functions; algebra; calculus; theory of assemblages.—Properties of assemblages and their application to functions.

Fite, Dr. Warner, Austin, Tex. *Philosophy, Psychology.* Philadelphia, Pa, March 5, 67. A.B, Haverford, 89; Berlin, 91–92; Munich, 92–93; Ph.D, Pennsylvania, 94. Instr. philos. and Hebrew, Williams, 94–96, dean of Faculty, 95–97; docent psychol, Chicago, 97–98, asst, 98–01, *instr*, 01–03; *philos, Texas, 03–* Philos. Ass; Psychol. Ass. Analysis of psychological and ethical theory.

Fite, Dr. William Benjamin, 127 Eddy St, Ithaca, N. Y. **Mathematics.* Marion, O, Aug. 23, 69. Ph.B, Cornell, 92, Ph.D, 01. Teacher *math*, Mich. Mil. Acad, 92–98; instr, *Cornell*, 01–05, *asst. prof, 05–* Math. Soc. Theory of groups of finite order.

Fitz, Dr. G(eorge) W(ells), 483 Beacon St, Boston, Mass. *Physiology, Hygiene, Physical education.* New York, N. Y, March 16, 60. M.D, Harvard, 90. Instr, Cook Co. Nor. Sch, Ills, 83–87; instr. and asst. prof. physiol. and hygiene and med. visitor, Harvard, 92–99. Ed, 'Am. Physical Educ. Review,' 96–01, 04–; orthopedic surgeon, Boston Dispensary. F.A.A; Physiol. Soc; Ass. Adv. Physical Educ. (cor. sec'y, 95–01); Soc. Research Physical Educ. (sec'y); Mass. Med. Soc; Boston Soc. Med. Sci; Boston Soc. Med. Improv. Respiratory types; ventilation tests (method of CO_2); spinal curvature; physical education.—Spinal curvature; physiology of exercise; ventilation.

Fitz, Dr. R(eginald) H(eber), 18 Arlington St, Boston, Mass. **Medicine.* Chelsea, Mass, May 5, 43. A.B, Harvard, 64, A.M, 67, M.D, 68; Vienna, Berlin and Paris, 68–70. Instr. path. anat, *Harvard Med. Sch*, 70–73, asst. prof, 73–78, *prof*, 78–92, *theory and practice of physic, 92–* Physician, Boston Dispensary, 71–82; Mass. Gen. Hosp, 87– LL.D, Harvard, 05. Am. Physicians (pres, 94); Ass. Path. and Bact; fel. Am. Acad; Mass. Med. Soc.

FitzGerald, Desmond, Brookline, Mass. *Engineering.* Nassau, Bahama Islands, May 20, 46. Phillips Acad, Andover, Mass. Asst. engineer, B. and A. R. R, 71–73; engineer and supt, Boston Water Works, 73–96; dept. engineer, Metropolitan Water Works, Mass, 96–02. Chairman, Board of Park Commissioners, Brookline; Mass. Topog. Surv. Commission, 96–00. Norman gold medal, Civil Eng, twice. Civil Eng. (past pres.); New Eng. Water Works Ass. (past pres.); Boston Soc. Civil Eng. (past pres.). Evaporation; hydraulics; rainfall; flow of streams; storage of water; temperature of lakes.—Construction of waterworks.

Fitzgerald, Francis A(lexander) J(ames), Box 118, Niagara Falls, N. Y. *Chemical engineering.* Dublin, Ireland, June 1, 70. A.B, Dublin, 92; B.S, Mass. Inst. Tech, 95. Chemist, Carborundum Co, 95–00; Int. Acheson Graphite Co, 00–03; *consulting chem. engineer, 03–* Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Franklin Inst. Electric furnaces; electric furnace products.—Electric furnace refractories; improvements in the manufacture of carbon articles.

Fitzpatrick, Dr. Charles B(orromeo), 616 Madison Ave, New York, N. Y. *Therapy, Pathology.* New York, Nov. 2, 69. A.B, Seton Hall, 87, A.M, 88; M.D, Columbia, 90; Charity Hosp, 91; Hygienic Inst, Berlin, and Pasteur Inst, Paris, 94. Grad. in charge, Annex Lab. for Exp. Path, Columbia, 94; asst. bacteriologist, N. Y. City, 95; pathologist and director, Bacter. Laboratories, Health Officer's Dept, N. Y, 97; bacteriologist, Dept. Health, N. Y. City, 02. Instr. electrotherapeut. and nervous diseases, N. Y. Post-Grad. Med. Sch. and Hosp. Ass. Path. and Bact; N. Y. Path. Soc; N. Y. Acad. Med. Diphtheria antitoxin; toxin and antitoxin of the plague bacillus; bacteriology of yellow fever; disinfection; etc.—X-ray toxins; radium treated hydrophobia; radio-pathology and therapy of nervous and skin diseases; physical basis of immunity.

Fitzpatrick, T. J, Box 497, Iowa City, Ia. *Botany, Geology.* Centerville, Ia, April 2, 68. B.S, Iowa, 93, M.S, 95. Prof. math. and bot, Graceland, 95–99. Collector, Iowa Hist. Soc, 04– F.A.A; fel. Iowa Acad; fel. Iowa Hist. Soc. Flora of Iowa.—Id; bibliography of scientific literature of Iowa.

Fitz-Randolph, R(aymond) B(ernard), 733 W. State St, Trenton, N. J. *Bacteriology, Chemistry.* Philadelphia, Pa, Feb. 7, 72. A.C, Lehigh, 93. Instr. chem, U. S. Naval Lab, 93–94; asst. bacteriologist, Health Dept, Brooklyn, 94–95; asst. bacter, Hoagland Lab, 95–98, assoc. director, 98–03; *director, State Lab. of Hygiene, N. J, 03–* Instr. anal. chem, Long Isl. Med. Col, 98–03. M.A.A; Chem. Soc; Soc. Chem. Indust; Pub. Health Ass; N. J. Sanit. Ass; Royal Micros. Soc. Applied and sanitary bacteriology.—Bacteriology and chemistry of municipal milk supplies; food and drug examination.

Flather, Prof. J(ohn) J(oseph), 1103 Fourth St, S. E, Minneapolis, Minn. *Mechanical engineering.* Philadelphia, Pa, June 9, 62. Ph.B, Yale, 85; M.M.E, Cornell, 90. Machinist, draftsman and foreman, machine shops, New England; supt, steam pump works, Buffalo, N. Y; instr, *mech. eng*, Lehigh, 88–91; prof, Purdue, 91–98; *prof. and head of dept, Minnesota, 98–* F.A.A. (sec'y, D, 97, 98, v. pres, 02); Mech. Eng; Elec. Eng; Eng. Educ. (treas, 94–99); Minn. Sanit. Ass. (v. pres.); N. W. Ry. Club (v. pres.). Measurement of power; fly-wheel accidents; transmission of power.—Friction of shafting; corrosion of metals.

Fleck, Dr. Herman, Colorado School of Mines, Golden, Colo. *Chemistry.* Philadelphia, Pa, Dec. 3, 70. Pennsylvania, 86–91; Nat. Sc.D, Tübingen, 92. Prof. chem, High Sch, Reading, Pa, 92–93; instr. org. chem, Pennsylvania, 93–00; chemist and asst. supt, Western Mfg. and Oil Co, Newark, N. J, 00–01; *prof. chem,*

Colo. Sch. of Mines, 03– Chem. Soc; Chem. Gesell. Metallo-organic alkyls; chemistry of oxyphosphates.—Dental chemistry, especially plastics; the technical production of uranium and vanadium; alkali lakes of the San Luis Valley.

Fleet, Prof. R(obert) R(yland), Liberty, Mo. *Mathematics.* Urbanna, Va, Sept. 16, 70. A.B, William Jewell, 96; Missouri, 98, fellow, 99–00, A.M, 00; Berlin and Heidelberg, 00–03; Ph.D, Heidelberg, 03. *Prof. math,* Clarksburg, 96–98; *William Jewell, 03–* Math. Soc. Die Quadraturen von integralen partieller Differentialgleichungen.

Fleming, John A(dam), 104 The Ontario, Washington, D. C. *Civil engineering.* Cincinnati, O, Jan. 28, 77. B.S, Cincinnati, 99. Aid, *U. S. Coast and Geod. Surv, 99–03, magnetic observer, 04–; magnetician, Dept. Int. Research in Terrestrial Magnetism, Carnegie Inst, 04–* Reviewer, 'Jour. of Terrestrial Magnetism and Atmospheric Elec.' M.A.A; Wash. Philos. Soc. Terrestrial magnetism.

Fleming, Mrs. W(illiamina) P(aton), Observatory, Cambridge, Mass. **Astronomy.* Dundee, Scotland, May 15, 57. Pub. schools. Asst, *Harvard Col. Observatory, 79–98, curator astron. photographs, 98–* Astron. and Astrophys. Soc. Stellar spectra; astronomical photographs.

Fletcher, Miss Alice C(unningham), Peabody Museum, Cambridge, Mass. **Anthropology.* Boston, Mass, 45. *Asst. ethnol, Peabody Mus, 82–, Thaw fellow, 91–* F.A.A. (v. pres, 96); Soc. Nat; Archeol. Inst; Folk-lore Soc; Wash. Acad; Wash. Anthrop. Soc. (pres.). Anthropology; ethnology; archeology.

Fletcher, Horace, Care Barrett Manufacturing Co, 17 Battery Place, New York, N. Y. *Dietetics.* Lawrence, Mass, Aug. 10, 49. Sci. Dept, Dartmouth, 70. London Japan Soc; London Arts Club. Development of Japan; art; the minimum quantity of food requisite for the best human efficiency and the psychological and physiological aids or detriments of nutrition.—Nutrition; social quarantine.

Fletcher, Hugh, Geological Survey, Ottawa, Can. *Geology.* London, England, Dec. 9, 48. Upper Canada, 63–67; A.B, Toronto, 71. Geologist, Can. Geol. Surv, 72–05. N. S. Min. Soc; N. S. Inst. Coal and other economic minerals of Nova Scotia, and geology of the formations with which these are associated.—Coal underlying the so-called Permian strata of Nova Scotia.

Fletcher, Dr. James, Central Experimental Farm, Ottawa, Can. *Entomology, Botany.* Ash, Kent, England, March 28, 52. The King's Sch, Rochester, England. Accountant, Library of Parliament, Ottawa, 76–87; *Dominion entomologist and botanist, 87–* LL.D, Queen's (Can.). F.A.A; Soc. Prom. Agr. Sci; fel. Can. Royal Soc; fel. London Linnean Soc. Practical entomology; grasses; weeds.

Fletcher, Dr. Robert, The Portland, Washington, D. C. *Medicine.* Bristol, England, March 6, 23. Royal Col. Surg, England, 44. Surgeon, U. S. Vols, 61–67; practising physician, 67–76; *principal asst. librarian, Library, Surgeon Gen. Office, Washington, D. C, 76–* Prof. med. juris, Columbian, 86–90; lecturer forensic med, Med. Dept, Hopkins, 97–; ed, 'Index Medicus,' 79–99, 03– Hon. M.D, Columbian, 84. F.A.A; Am. Med. Ass; Mil. Order Loyal Legion; Nat. Geog. Soc; D. C. Med. Soc; Phila. Col. Physicians; Wash. Acad; Wash. Biol, Anthrop. (past pres.), Philos. (past pres.) and Hist. Societies; Soc. d'Hygiène. Medical bibliography; history of medicine; forensic medicine; early English medical literature.

Fletcher, Prof. Robert, Dartmouth College, Hanover, N. H. *Civil engineering.* New York, N. Y, Aug. 23, 47. Col. City of N. Y, 61–64; grad, U. S. Mil. Acad, 68. Instr. math, U. S. Mil. Acad, 69–70; *prof. civil eng. and director, Thayer Sch. Civil Eng, Dartmouth, 71–* Pres. and engineer, Hanover Water Works Co, 93–; inspector bridges, Vt. R. R. Commission, 88–; mem. N. H. Board of Health, 95–; consulting engineer, bridges, water works and sewerage works. Hon. A.M, Dartmouth, 71, Ph.D, 81. F.A.A; Civil Eng; Eng. Educ. (pres, 01–02); Nat. Geog. Soc. Surveying; bridge-truss analysis; hydraulics; engineering education.

Fletcher, Prof. S(tevenson) W(hitcomb), Morgantown, W. Va. *Horticulture.* Littleton, Mass, Sept. 10, 75. B.S, Mass. Agr. Col, 96; fellow, Cornell, 98–99, Ph.D, 00. *Prof. hort. and horticulturist, Exp. Sta,* Wash. Agr. Col, 00–02; *West Virginia, 02–* Pomol. Soc. The self-sterility and cross-pollination of orchard fruits.—The pollination of Kiefer pears; experiments in controlling San Jose scale; the sterilization of greenhouse soils.

Flexner, Dr. Simon, 66th St. and Ave. A, New York, N. Y. **Pathology, Bacteriology.* Louisville, Ky, March 25, 63. M.D, Louisville, 89; fellow, Hopkins, 92–93; Strasburg and Prague, 96. Assoc. path, Hopkins, 94, assoc. prof, 96–99, prof. path. anat, 99; path, Pennsylvania, 99–03; *director, Laboratories, Rockefeller Inst. for Med. Research, 03–* Mem. Hopkins Commission to Philippines, 99; Nat. Plague Commission, 01; Board of Directors, Rockefeller Inst. for Med. Research, 01–; director, Ayer Clin. Lab, Pa. Hosp, 01– F.A.A; Ass. Path. and Bact; Soc. Bact; Am. Physicians; Physiol. Soc; Soc. Exp. Biol. and Med; Philos. Soc; Phila. Col. Physicians; N. Y. Acad; cor. mem. Bologna Medico-Chirurg. Soc. Pathology of toxalbumin intoxication; terminal infection; snake venom.—Histological alterations of cytotoxinic intoxication; etiology of dysentery.

Flint, Prof. Albert S(towell), 450 Charter St, Madison, Wis. **Astronomy.* Salem, Mass, Sept. 12, 53. A.B, Harvard, 75; Mass. Inst. Tech, 76–77; A.M, Cincinnati, 80. Computer, U. S. Naval Observatory, 81–83; asst, U. S. Transit of Venus Commission, 83–88; computer, U. S. Naval Observatory, 88–89; asst. astron-

omer, *Wisconsin*, 89–94, *astronomer*, *94–* F.A.A; Astron. and Astrophys. Soc; Wis. Acad. (sec'y and ed, 'Trans,' 97–99); Astron. Gesell. Astronomy and computation.—Meridian observations for stellar parallax.

Flint, Dr. Austin, 60 E. 34th St, New York, N. Y. *Medicine, Physiology.* Northampton, Mass, March 28, 36. Harvard, 52–53; Med. Dept, Louisville, 54–55; M.D, Jefferson Med. Col, 57; Paris, 61. *Prof. physiol*, Med. Dept, Buffalo, 58–59; N. Y. Med. Col, 59–60; New Orleans Sch. Med, 60–61; Bellevue Hosp. Med. Col, 61–98; *Med. Col, Cornell, 98–* Student asst. physiol, Woodstock Med. Col, Vt, summer, 55; ed, 'Buffalo Med. Jour', 57–60; prof. physiol, Long Isl. Col. Hosp, 62–68; state surgeon gen, N. Y, 74–78; visiting and consulting physician and surgeon, various hospitals, 58– Decoration (third class), Order of the Bust of the Liberator, Venezuela, 91; LL.D, Jefferson Med. Col, 85. F.A.A; Am. Med. Ass; Medico-Psychol. Ass; hon. mem. Am. Acad. Med; Philos. Soc; fel. N. Y. State Med. Ass. (pres, 95); Greater N. Y. Med. Ass. (pres, 99); N. Y. Prison Ass. (mem. Exec. Committee, 96); cor. mem. Phila. Acad. Human physiology; medicine.—Mental diseases.

Flint, Dr. E(dward) R(awson), Lake City, Fla. *Chemistry, Medicine.* Boston, Mass, Sept. 8, 64. B.S, Mass. Agr. Col, 87; Ph.D, Göttingen, 92; M.D, Harvard, 03. Asst. chemist, Hatch Exp. Sta, Amherst, 87–90; asst. prof. *chem*, Mass. Agr. Col, 93–99; *prof, Florida, and chemist, Exp. Sta, 04–* Fertilizer experiments with citrus fruits.

Flint, Dr. James M(ilton), U. S. N. (retired), Stoneleigh Court, Washington, D. C. *Medicine, Biology.* Hillsborough, N. H, Feb. 7, 38. M.D, Harvard, 60. Asst. surgeon, U. S. N, 62–74, surgeon, 74–93, med. inspector, 93–97, med. director, 97–00; *hon. curator, Div. of Med, U. S. Nat. Mus*, 80–84, 88–91, *95–* Mem. Commission on Revision and Publication, U. S. Pharmacopœia, 80–90; surgeon, U. S. Fish Commission, Str. 'Albatross,' 84–87. F.A.A; Micros. Soc; Wash. Acad; Wash. Biol. Soc; Wash. Philos. Soc. Pharmacology; history of medicine; Foraminifera.—Deep-sea deposits of the Pacific Ocean.

Flint, Dr. Joseph Marshall, Anatomical Laboratory, University of California, San Francisco, Cal. **Anatomy.* Chicago, Ills, July 8, 72. B.S, Chicago, 95; A.M, Princeton, 00; M.D, Hopkins, 00. Assoc. *anat*, Chicago, 00–01; *prof, California, 01–* Asst. anat, Summer Sch, Chicago, 97; asst, Hopkins Med. Commission to Philippines, 99; acting asst. surgeon, Marine Hosp. Service, San Francisco, 01; ed, 'Am. Jour. Anat.' Ass. Anat. (v. pres, 04–05); Wash. Yellow Fever Inst; Manila Med. Soc. Suprarenal bodies; submaxillary gland; development of the blood vessels in organs; hypertrophy of the intestine; form of joint cavities; development of the bronchial tree and lobules of the lung.

Flowers, Prof. Rob(er)t L(ee), Trinity Park, Durham, N. C. *Mathematics.* York Collegiate Institute, N. C, Nov. 6, 70. Grad, U. S. Naval Acad, 91; A.M, Trinity (N. C.). Instr. *math, Trinity (N. C.)*, 91–92, asst. prof, 92–93, *prof, 93–* Math. Soc.

Focke, Prof. Theo(dore) M(oses), 57 Cornell St, Cleveland, O. *Mathematical physics.* Massillon, O, Jan. 3, 71. B.S, Case, 92; Ph.D, Göttingen, 98. Instr. math, Case, 92–93; physics, Oberlin, 93–96; *math, Case*, 98–02, *asst. prof, 02–* F.A.A. Heat conductivity.—Coefficient of expansion; alloys of nickel and cast iron; heat conductivity of fire bricks.

Focke, Mrs. Theo. M. (Anne Bosworth), 57 Cornell St, Cleveland, O. *Mathematics.* Woonsocket, R. I, Sept. 29, 68. B.S, Wellesley, 90; Chicago, summers, 94, 96; Ph.D, Göttingen, 99. First asst, High Sch, Amesbury, Mass, 90–92; prof. math, R. I. Col. Agr. and Mech. Arts, 92–00. Math. Soc. Non-Euclidean geometry.

Foerste, Dr. Aug(ust) F(rederick), 1017 Grand Ave, Dayton, O. *Geology.* Dayton, May 7, 62. A.B, Denison, 87; A.M, Harvard, 88, Ph.D, 90; Heidelberg and Paris, 90–92. *Teacher physics, Steele High Sch, Dayton, 93–* Asst. geologist, Ky. Geol. Surv, 04– Geol. Soc. Morphology of phanerogams; relations between flowers and insects; Silurian geology.—Silurian strata of Kentucky.

Fogel, Dr. Philip H(oward), Princeton University, Princeton, N. J. *Philosophy.* Fogelsville, Pa, Aug. 14, 80. A.B, Ursinus, 01; A.M, Princeton, 02, Ph.D, 04. *Instr. logic and psychol, Princeton, 04–* Philos. Ass. Metaphysical elements in sociology.—The nature of the appreciative, as contrasted with the descriptive, consciousness.

Foley, Prof. Arthur L(ee), Bloomington, Ind. **Physics.* Hancock Co, Ind, Feb. 22, 67. Central Nor. Col, 82–84; Hayward, 86–87; A.B, Indiana, 90, A.M, 91; Chicago, 94; fellow, Cornell, 96–97, Ph.D, 97. Teacher, pub. schools, 84–86, 87–88; instr. *physics, Indiana*, 90–91, assoc. prof, 91–97, *prof, 97–* F.A.A; Physical Soc; fel. Ind. Acad; Ind. Sci. Teachers' Ass. Surface tension; arc spectra; diamond glass fluorescence; electrolytic phenomena; action of ultraviolet light and other radiation upon the action of the coherer; the Edison effect; absolute dilatation of mercury; the use of nickel in the core of the Marconi detector; electromagnetic induction in various conductors and electrolytes; refraction and diffraction by a stream of gas and by an electric discharge; magnetic alloys.—The effect of dragging a conductor lengthwise through a magnetic field of force.

Folin, Dr. Otto, 16 Avon St, Cambridge, Mass. *Physiological chemistry.* Åsheda, Sweden, April 4, 67. B.S, Minnesota, 92; Ph.D, Chicago, 96; Upsala, Berlin and Marburg, 97–98. Commercial chemist, Chicago, 99; asst. prof. chem, West Virginia, 99–00; *research chemist, McLean*

Hosp, Waverly, Mass, 00– Chem. Soc; Physiol. Soc; Soc. Exp. Biol. and Med; Boston Soc. Med. Sci; Chem. Gesell. Technique of urine analysis; laws governing the chemical composition of urine; metabolism in the insane; preponderance of acid or of basic inorganic constituents in urine.—Protein metabolism.

Folsom, Dr. Charles F(ollen), 15 Marlborough St, Boston, Mass. *Medicine, Mental diseases.* Haverhill, Mass, April 3, 42. A.M, Harvard, 65, M.D, 70; Vienna and Berlin, 73–74; Munich, 79. Lecturer hygiene and pub. health, Harvard Med. Sch, 77–82, asst. prof. mental diseases and head of dept, 79–88. Sec'y, Mass. State Board of Health; mem. Nat. Board of Health; visiting physician, Boston City Hosp; overseer, Harvard; mem. Commission Boston Metropolitan Sewerage. Soc. Nat; hon. mem. Am. Physicians; Am. Acad; Boston Soc. Med. Sci; Boston Soc. Med. Improv. Public health; insanity; medicine.

Folsom, Dr. Justus W(atson), Champaign, Ills. *Entomology.* Cambridge, Mass, Sept. 2, 71. B.S, Harvard, 95, Sc.D, 99. Prof. nat. science, Antioch, 99–00; *instr. entom, Illinois, 00–* Lab. asst. bot. and zool, Harvard. M.A.A; Soc. Zool; Nat. Cent. States; Boston Soc. Nat. Hist; Cambridge Entom. Club (pres, 00). Anatomy, physiology and embryology of insects; systematic entomology; Collembola and Thysanura. —Collembola and Thysanura of North America; morphology of the insectean thorax.

Folwell, Prof. A(mory) Prescott, 10 Chestnut Terrace, Easton, Pa. *Civil engineering.* Rondout, N. Y, Jan. 15, 65. A.B, Brown, 85; Mass. Inst. Tech, 88. Practising civil engineer, 88–97; instr. civil eng, *Lafayette,* 97–99, assoc. prof. *munic. eng,* 99–04, *prof, 04–* Civil Eng; Soc. Munic. Improv. (pres, 04–05); Acad. Polit. and Social Sci; New Eng. Water Works Ass. Sewer design and construction; municipal sanitation; flow of water in pipes, tubes and jets.—Law of flow of water from orifices and standard tubes.

Fontaine, Prof. W(illia)m M(orris), University Station, Charlottesville, Va. **Paleobotany.* Louisa Co, Va, Dec. 1, 35. Virginia, 56–59, A.M, 59; Royal Mining Sch, Freiberg, 69–70. *Prof.* nat. hist. and chem, West Virginia, 73–79; *nat. hist. and geol, Virginia, 79–* Geol. Soc. General geology; mineralogy; fossil botany.

Foot, Miss Katharine, 80 Madison Ave, New York, N. Y. **Zoology.* Geneva, N. Y, Oct. 14, 52. Private schools. Soc. Nat; Soc. Zool. Cytology.—Maturation and fertilization of the egg of Allolobophora fetida.

Foote, Dr. H(arry) W(ard), Sheffield Chemical Laboratory, New Haven, Conn. *Chemistry.* Guilford, Conn, March 21, 75. Ph.B, Yale, 95, Ph.D, 98; Leipzig, 99–00. *Asst. prof. chem, Yale, 04–* Inorganic and physical chemistry; mineralogy.

Forbes, Dr. Charles S(avage), 133 E. 29th St, New York, N. Y. *Mathematics.* Warren, Mass, July 8, 79. A.B, Columbia, and diploma, Teachers Col, 01, A.M, 03, Ph.D, 04. Asst. math, Columbia, 01–04; *statistician, Casualty Co. of Am, 04–* Reader, Col. Entrance Exam. Board, 03–04. M.A.A; Math. Soc. Geometry of circles orthogonal to a given sphere.

Forbes, Prof. R(obert) H(umphrey), Tucson, Ariz. *Agricultural chemistry.* Cobden, Ills, May 15, 67. B.S, Illinois, 92; Harvard, 93–94; M.S, Illinois, 96. Prof. chem, Arizona; *director and chemist, Ariz. Agr. Exp. Sta, 94–* M.A.A. Alkali; arid soils; proximate composition of plants.—Date culture; sugar-beet culture; irrigating waters.

Forbes, Prof. W(illiam) S(mith), 901 Pine St, Philadelphia, Pa. *Anatomy.* Falmouth, Va, Feb. 10, 31. Virginia; Pennsylvania; Jefferson Med. Col. *Prof. anat, Jefferson Med. Col, and clin. surgeon, Jefferson Col. Hosp, 86–* Ass. Anat; Phila. Col. Physicians. Human and comparative anatomy; stone in the bladder.

Forbush, E(dward) H(owe), Wareham, Mass. *Ornithology.* Quincy, Mass, April 24, 58. Willow Park Sem; Hinman Commercial Col. Curator, v. pres, pres. and managing director, Worcester Nat. Hist. Soc, 80–91; field director, *Mass. State Board Agr,* 91–00, *ornithologist, 94–* Mem. Ornith. Union; Worcester Nat. Hist. Soc. Economic entomology and ornithology.

Forchheimer, Dr. F(rederick), 2428 Auburn Ave, Cincinnati, O. *Medicine.* Cincinnati, Sept. 25, 53. M.D, Columbia, 73; Würzburg and Strasburg, 73–75. Instr. histol, *Med. Col. of Ohio, Cincinnati,* 75–79, *prof. diseases of children and practise of med,* 79– Am. Physicians; Pediat. Soc; Wash. Acad. Non-surgical diseases of the mouth in children; chlorosis; toxicity of urine. —Metabolism in disease.

Ford, W(alter) B(urton), Williamstown, Mass. *Mathematics.* Oneonta, N. Y, May 18, 74. A.B, Harvard, 97, A.M, 98. *Instr. math,* Albany Acad, 00–01; Michigan, 01–03; *Williams, 04–* Math. Soc. The convergence of the series developments of mathematical physics; the analytic extension of functions of a complex variable.

Ford, Dr. William Ebenezer, Jr, 16 Lynwood Place, New Haven, Conn. *Mineralogy.* Westville, Conn, Feb. 18, 78. Ph.B, Yale, 99, Ph.D, 03. Asst. *miner, Yale,* 00–03, *instr, 03–* Chemical composition and crystallography of minerals.

Ford, Dr. W(illiam) W(ebber), 1134 Cathedral St, Baltimore, Md. *Bacteriology, Hygiene.* Norwalk, O, Dec. 15, 71. A.B, Western Reserve, 93; M.D, Hopkins, 98; D.P.H, McGill, 00, fellow, McGill, 99–01; research fellow, Rockefeller Inst. for Med. Research, 01–03. *Instr. bacter, Med. Sch, Hopkins, 03–* Soc. Bact; Ass. Path. and Bact; Pub. Health Ass. Diseases of the liver; intestinal bacteria; agglutinations; classification of intestinal bacteria.—Toxins and antitoxins.

Fortier, Director S(amuel), 2628 Benvenue Ave, Berkeley, Cal. *Irrigation engineering.* Leeds,

Que, April 24, 55. B.A.S, McGill, 85, M.E, 96. Asst. and chief engineer, Colo. and Utah, 86–93; prof. civil eng, Utah Agr. Col, 93–98; director, Mont. Exp. Sta, 99–04. Consulting engineer, 93–05; res. hydrographer, U. S. Geol. Surv, 95–02; agent and expert irrig. investigations, U. S. Dept. Agr, 99–03, agent and expert in charge, Pacific Div. Irrig. Investigations, 03–05. Grooski medal, Can. Civil Eng, 96. Soc. Irrig. Eng. (director, 92); Mont. Soc. Eng; Can. Civil Eng. Seepage and return waters in irrigation; carrying capacities of canals.—Evaporation from soils; relation between soil moisture and crop yield; duty of water in irrigation.

Foster, Dr. William, Princeton, N. J. *Chemistry.* Hartford, Ky, May 15, 69. A.B, Hartford, 92; A.M, Princeton, 96, Ph.D, 99. Prof. science, Hartford, 93–95; asst. *chem,* Princeton, 96–98; prof, Central Univ. of Ky, 99–00; instr, *Princeton,* 00–05, *asst. prof, 05–* Chem. Soc. The conductivity of electrolytes; the specific gravity of solutions; new compounds of arsenic.

Foulk, Prof. C(harles) W(illiam), Ohio State University, Columbus, O. *Chemistry.* Warren, O, April 26, 69. A.B, Ohio State, 94; Leipzig, 00–01. Asst. to chemist, Ohio Board of Agr, 94, 97; asst. *chem, Ohio State,* 98, asst. prof, 99–02, *assoc. prof, 02–* M.A.A; Chem. Soc. Analytical chemistry; influence of excess of reagent in the precipitation of barium sulphate.

Fowke, Gerard, St. Louis, Mo. *Archeology, Geology.* Near Maysville, Ky, June 25, 55. Asst. ethnologist, Bur. Am. Ethnol. (at intervals), 84–04; *with Mo. Hist. Soc, 05–* With Jesup North Pacific Exped, Am. Mus. Nat. Hist, 98. Mound-builders remains; aboriginal work in stone; preglacial geology of southwestern Ohio.

Fowle, Frederick Eugene, Jr, 1925 Fourth St, N. W, Washington, D. C. *Astrophysics.* Arlington, Mass, Nov. 20, 69. B.S, Mass. Inst. Tech, 94. *Asst,* Harvard Col. Observatory, 87–94; *Astrophys. Observatory, Smithsonian Inst, 94–* Lecturer, Columbian. Astron. and Astrophys. Soc; Wash. Philos. Soc. Bolometric research. —Atmospheric absorption.

Fowler, Prof. James, 121 Union St, Kingston, Can. *Botany.* Bartibog, N. B, July 16, 29. Halifax, 50; A.M, New Brunswick, 72. Lecturer nat. science, *Queen's (Can.),* 80–91, *prof,* 91–92, bot. and geol, 92–94, *bot, 94–* LL.D, New Brunswick, 00. Fel. Can. Royal Soc. Botany; zoology; geology.

Fox, Dr. L. Webster, 1304 Walnut St, Philadelphia, Pa. *Ophthalmology.* Hummelstown, Pa, March 19, 53. Pa. State Nor. Sch, 72–75. Asst. ophthalmologist, Jefferson Med. Col, Phila, 82–85; ophthal. surgeon, Germantown Hosp, 83–93; *prof. ophthal, Medico-Chirurg. Col, Phila, 93–* Hon. A.M, Lafayette. Soc. Nat; Am. Med. Ass; Phila. Co. Med. Soc. Assymetry of the face in relation to its effect upon anisometropia; diseases of the eye.

Fox, Prof. William, 555 E. 86th St, New York, N. Y. *Mathematical physics.* Horowitz, Bohemia, Sept. 18, 64. B.S, Col. City of N. Y, 84; M.E, Stevens, 86. Instr, Workingmen's Sch, N. Y, 86–87; mech. drawing, *Col. City of N. Y,* 87–92, applied math, 92–97, *asst. prof. physics, 97–* Lecturer, N. Y. Optical Soc. M.A.A; Physical Soc; Mech. Eng. Graphics as applied to practical calculation.

Fox, W(illia)m J(oseph), Academy of Natural Sciences, Philadelphia, Pa. *Entomology.* Philadelphia, Nov. 21, 72. Pub. schools. *Asst. librarian, Acad. Nat. Sciences, Phila, 88–* Entom. Soc; N. Y. Entom. Soc; Phila. Acad. The fossorial Hymenoptera; bibliography of natural history.

Fracker, Prof. G(eorge) Cutler, Coe College, Cedar Rapids, Ia. *Psychology, Philosophy.* Iowa City, Ia, Sept. 27, 67. Ph.B, Iowa, 94, B.D, 95, A.M, 00. Principal, Jefferson Township High Sch, 94–96; Grammar Sch, Iowa City, 96–00; *prof. philos, Coe, 00–* Asst. psychol, Columbia, 04–05. F.A.A; Psychol. Ass; West. Philos. Ass; Iowa Soc. for Child Study (sec'y, 99–03). Effects of practise in reaction and discrimination for sound upon the time of reaction and discrimination for other forms of stimuli. —The perception of space; effects of practise.

Francis, Prof. Cha(rle)s Kenworthy, Converse College, Spartanburg, S. C. *Chemistry.* Chester, Pa. Ph.B, Brown, 99, A.M, 04. Chemist to Dr. H. Froehling, Richmond, Va, 92–96; instr. *chem,* Brown, 98–99; adj. prof, Ga. Sch. Tech, 99–01, junior prof, 01–03; *prof, Converse, 03–* M.A.A; Chem. Soc; S. Educ. Ass. Dye stuffs; sulphuric acid.—Cement.

Frankenfield, Prof. H(arry) C(rawford), U. S. Weather Bureau, Washington, D. C. *Meteorology.* Easton, Pa, Nov. 24, 62. A.B, Lafayette, 81, A.M, 84; M.D, Howard, 86. Observer, *U. S. Weather Bur,* 82–91, forecaster, 91–04, *prof. meteorol, 04–* Nat. Geog. Soc. Storms and storm types; floods in rivers.—The systematic forecasting of flood stages in the rivers of the United States; improvements in weather forecasting.

Frankforter, Prof. George B(ell), University of Minnesota, Minneapolis, Minn. **Chemistry.* Potter, O, April 22, 60. A.B, Nebraska, 86, A.M, 88; Ph.D, Berlin, 93. Instr. chem, Nebraska, 85–87; High Sch, Lincoln, 87–88; prof, Nebraska, 93–94; *dean and director, Sch. of Chem, Minnesota, 94–* U. S. Mint Commissioner, 01. F.A.A; Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Eng. Educ; Chem. Gesell; Electrochem. Gesell. Alkaloids, narcotin, narcein, veratrin, and isopyroin; vegetable oils; the terpens, including camphor and crude pitch; eugenol.—Formaldehyde; veratrin; eugenol; the pitch of the northern pine.

Frankland, F(rederick) W(illiam), 'Okataina,' Foxton, N. Z. *Mathematics, Metaphysics, Biblical criticism.* Manchester, England, April 18, 54. London, 69–72. Govt. actuary, N. Z, 78–90; registrar, Friendly Societies, N. Z, 84–

85; govt. insurance commissioner, N. Z, 89–90; assoc. actuary, N. Y. Life Ins. Co, 93–02. Delegate from New Zealand to Int. Cong. Hygiene and Demog, London, 91. M.A.A; Math. Soc; Econ. Ass; Actuarial Soc; Acad. Polit. and Social Sci; Gt. Britain and Ireland Inst. of Actuaries; Royal Statist. Soc. Single elliptic space; discrete manifolds; epistemology; theology of American communistic societies; the relation of pangeometry to the ultimate constitution of matter and ether; logical affiliation of continuous geometry to tactic; epistemological aspect of time.—Christian origins; the synoptic problem; supernormal element in prophecy.

Franklin, Mrs. Christine Ladd, Johns Hopkins University, Baltimore, Md. **Psychology, Logic.* Windsor, Conn, Dec. 1, 47. A.B, Vassar, 69, Hopkins, 78–82; Göttingen, 91–92; Berlin, 92, 94, 01. Assoc. ed, 'Dict. Philos. and Psychol'; *lecturer, Hopkins, 04–* LL.D, Vassar, 87. F.A.A; Soc. Nat; Psychol. Ass; Philos. Ass. Psychology.—Logic; color vision.

Franklin, Prof. E(dward) C(urtis), Stanford University, Cal. **Chemistry.* Geary City, Kas, March 1, 62. B.S, Kansas, 88, M.S, 90; Berlin, 90–91; Ph.D, Hopkins, 94. Asst. chem, Kansas, 89–94, assoc. prof, 94–99, prof. physical chem, 99–03; *assoc. prof. org. chem, Stanford, 03–* Chemist, sugar plantations, Donaldsonville, La; gold mine, Miramar, Costa Rica, 97. F.A.A; Chem. Soc; Kas. Acad; Chem. Gesell. Liquid ammonia as an electrolytic solvent.

Franklin, Dr. Fabian, 220 W. Monument St, Baltimore, Md. **Mathematics.* Eger, Hungary, Jan. 18, 53. Ph.B, Columbian, 69; fellow, Hopkins, 77–79, Ph.D, 80. Assoc, later assoc. prof. and prof. math, Hopkins, 79–95; *ed, 'Baltimore News,' 95–* LL.D, Columbian, 04. Math. Soc; assoc. fel. Am. Acad. Geometry; invariants.

Franklin, Prof. W(illiam) S(uddards), South Bethlehem, Pa. **Physics.* Geary City, Kas, Oct. 27, 63. B.S, Kansas, 87, M.S, 88; Sc.D, Cornell, 01. Asst. prof. physics, Kansas, 87–90; *prof.* physics and elec. eng, Iowa State, 92–97; *Lehigh, 97–03, physics, 03–* Mem. Jury of Awards, Nat. Export Expos, Phila; Pan-Am. Expos, 01. F.A.A. (sec'y, B, 98, v. pres, 02); Physical Soc; Astron. and Astrophys. Soc; hon. mem. Kas. Acad. Elementary physics; alternating currents; motion of the ether near moving bodies; Poynting's theorem.

Franz, Dr. S(hepherd) I(vory), Waverley, Mass. **Physiology, Psychology.* Jersey City, N. J, May 27, 74. A.B, Columbia, 94, fellow, 95–97; Leipzig, 96; Ph.D, Columbia, 99. Asst. psychol, Columbia, 97–99; physiol, Harvard Med. Sch, 99–01; instr. physiol. and med. physics, Med. Sch, Dartmouth, 01–04; *pathological physiologist, McLean Hosp. for Insane, 04–* Research asst, Carnegie Inst. Soc. Nat; Physiol. Soc; Psychol. Ass. Vision; fatigue; brain localization; sensory and motor conditions in insane; aphasia.—Functions of the cerebrum in mammals; physiological and psychological conditions in insanity.

Fraps, Dr. G(eorge) S(tronach), College Station, Tex. *Chemistry.* Raleigh, N. C, Sept. 9, 76. B.S, N. C. Agr. and Mech. Col, 96; fellow, Hopkins, 98–99, Ph.D, 99. Asst. chem, N. C. Agr. and Mech. Col, 95–96, asst. prof, 99–03, asst. chemist, N. C. Exp. Sta, 99–03; *Tex. Exp. Sta,* 03–04, assoc. chemist, 04–05, *acting chemist, 05–,* assoc. prof. *chem, Tex. Agr. and Mech. Col,* 04–05, *acting prof, 05–* M.A.A; Chem. Soc; Ass. Off. Agr. Chemists; Chem. Gesell. Agricultural chemistry.—Nitrification.

Frazer, Dr. J(oseph) C(hristie) W(hitney), 1217 Madison Ave, Baltimore, Md. *Chemistry.* Lexington, Ky, Oct. 30, 75. B.S, Ky. State, 97, M.S, 98; Ph.D, Hopkins, 01. Asst. chem, Ky. State, 97–98; asst, Chem. Dept, Ky. Agr. Exp. Sta, 98; *asst. chem, Hopkins, 02–* Carnegie research asst. Osmotic pressure.

Frazer, Dr. Persifor, 928 Spruce St, Philadelphia, Pa. *Geology, Chemistry.* Philadelphia, July 24, 44. A.B, Pennsylvania, 62, A.M, 65; Chem. Lab, Booth and Garrett, 65–66; Bergakad, Freiberg, 66–69; Nat. Sc.D, Lille, 82. Asst, U. S. Geol. Surv. (Hayden), 69–70; instr. chem, Pennsylvania, 70–71, asst. prof, 71–72, prof. 72–74; asst, Second Pa. Geol. Surv, 74–82; *prof.* chem, Franklin Inst, 82–94; *hort. chem, Pa. Hort. Soc, 89–* Co-editor, 'Am. Geologist.' Officier de l'Instruction Pub, 90. Int. Geol. Cong. (sec'y, Am. Committee, 85–89, v. pres, London, 88, St. Petersburg, 97). F.A.A. (representative, Can. Royal Soc. Inaug, 85); Geol. Soc; Min. Eng. (v. pres, 83); Philos. Soc. (sec'y, 95–98); Pa. Hort. and Hist. Societies; Franklin Inst. (assoc. ed, 'Jour,' 82–84); cor. N. Y. Acad; Soc. Cient. Ant. Alz; British Ass; Soc. Géol. du Nord; cor. Vienna Reichsanstalt; hon. mem Soc. Belge de Géol. Change of the moon's color at sunset; classification of coals; eruptive and crystalline rocks; characteristic tremors of the hand in writing; physical analysis by color prisms; effect of combustion products on vegetation.

Frear, Prof. William, State College, Pa. **Agricultural chemistry.* Reading, Pa, March 24, 60. A.B, Bucknell, 81; Harvard; Ph.D, Ills. Wesleyan, 83. Asst. nat. science, Bucknell, 81–83; asst. chemist, U. S. Dept. Agr, 83–85; asst. prof. *agr. chem. Pa. State,* 85–86, *prof, 86–; v. director and chemist, Pa. State Col. Exp. Sta, 87–; chemist, Pa. State Board of Agr,* 88– In charge chem. work, State Fertilizer Control, 88–; chemist, Dept. Agr. Pa, 95–96; chemist to state dairy and food commissioner, 95–; chemist, State Cattle Food Control, 02–; special agent, U. S. Dept. Agr, 01. F.A.A; Chem. Soc; Ass. Off. Agr. Chemists (pres, 97, chairman, Committee on Food Standards); Soc. Prom. Agr. Sci. (sec'y, 93–95, pres, 03–04); Ass. Agr. Col. (v. pres.); Chem. Gesell. Composition of cattle foods, soils and fertilizers; composition of vinegar; culture of tobacco; fertilizer effects of lime; digestibility of cattle

foods.—Shade culture of Sumatran tobacco; proximate composition of forage plants.

Freeborn, Dr. G(eorge) C(ornell), 200 W. 56th St, New York, N. Y. *Histology, Pathology.* New York, Dec. 10, 49. Sch. of Mines, Columbia, 66–68, M.D, Columbia, 73. Asst. nor. histol, Columbia, 84–86, instr, 87–02; *pathologist, Woman's Hosp, New York, 02–* M.A.A; Ass. Path. and Bact; N. Y. Path. Soc. (ed, 'Proc,' 89–91. Pathology of female generative organs; normal histology; pathology of nervous system.

Freedman, Prof. W(illiam) H(oratio), University of Vermont, Burlington, Vt. *Electrical engineering, Physics.* New York, N. Y, Dec. 28, 67. Col. City of N. Y, 82; C.E, Columbia, 89, E.E, 91, John Tyndall fellow, 91–92. Tutor elec. eng, Columbia, 92–95, mech, 95–98, *elec. eng,* 98–99; *prof, Vermont, 99–* Asst. surv. and geod, Columbia, summers, 90–92; assoc. ed, 'Electric Power,' 95–96; consulting elec. engineer, 99– F.A.A; Elec. Eng; Electrochem. Soc; Eng. Educ. The electric arc and the enclosed arc lamp.—Hysteresis and Eddy current losses in iron; leakage from rails to underground conductors in trolley circuits.

Freeman, Prof. E(dward) M(onroe), 220 Church St, S. E, Minneapolis, Minn. *Botany.* St. Paul, Minn, Feb. 12, 75. B.S, Minnesota, 98, M.S, 99; Cambridge, 01–02; Ph.D, Minnesota, 05. Instr, Col. Pharmacy, *Minnesota,* 98–01, Dept. Bot, 02–03, *asst. prof. bot, 03–* Mycol. Soc; Minn. Bot. Soc. Mycological botany; life history of fungus of Lolium temulentum; biological species of rusts.—Fungus of Lolium temulentum; rusts and wood-destroying agarics.

Freeman, Dr. John R(ipley), 235 Arlington Ave, Providence, R. I. *Hydraulic engineering.* West Bridgeton, Me, July 27, 55. B.S, Mass. Inst. Tech, 76. Principal asst. engineer, Water Power Co, Lawrence, Mass, 77–80; principal asst. to Mr. Hiram F. Mills, consulting hydraulic engineer, 80–86; *consulting engineer, 86–* Chief engineer and supt. inspection, Ass. Factory Mutual Ins. Companies, 87–96; engineer mem, Mass. Metropolitan Water Board, 95–96; pres. and treas, Manufacturers' Mutual Ins. Co, 96–; consulting engineer, N. Y. Water Supply, 00–; consulting engineer, various mfg. concerns; lecturer and mem. corporation, Mass. Inst. Tech, visitor, Eng. and Archit. Departments. Norman gold medal, Civil Eng, twice; hon. Sc.D, Brown, 04; Tufts, 05. Civil Eng. (v. pres, 02); Mech. Eng. (pres, 04–05); New Eng. Water Works Ass; Boston Soc. Civil Eng. (pres, 94). Experimental hydraulics; fire protection; development of water power; municipal water supply.—Flow of water in pipes and pipe fittings; effect of damming tidal estuary of Charles River at Boston on health of community and on shoaling of harbor; fire protection of theatres.

Freeman, Dr. R(owland) G(odfrey), 205 W. 57th St, New York, N. Y. *Pediatrics, Bacteriology.* New York, June 11, 59. A.B, Columbia, 83, M.D, 86. *Clin. lecturer pediat, Univ. and Bellevue Hosp. Med. Col, 01–* Visiting physician, N. Y. Foundling Hosp; Nursery and Child Hosp; Seaside Hosp. of St. John's Guild. Soc. Bact; Pediat. Soc; Pub. Health Ass; N. Y. Acad. Med; N. Y. Path. Soc; N. Y. Co. Med. Ass. Pediatrics; bacteriology of milk; dairy hygiene.

Freer, Dr. Paul C, Government Laboratories, Manila, P. I. **Chemistry.* Chicago, Ills, March 27, 62. M.D, Rush Med. Col, 83; Ph.D, Munich, 87. Asst. *chem,* Owens Col, England, 87; Tufts, 87–88, instr, 88–89; lecturer, Michigan, 89–90, prof, 90–04; *supt. Govt. Laboratories and mem. P. I. Board of Health, Manila, 01–* F.A.A. (sec'y, C, 97); Chem. Soc; Nat. Educ. Ass. (pres, Sci. Sect.); Chem. Gesell. Action of sodium on ketones and aldehydes; closed carbon chains; phenyl hydrazones; tetrinic acid; esterification of halogen substituted fatty acids; formamid; organic peroxids, their germicidal action, etc; reduction of nitric acid.—Organic peroxids; tetramethylene; gutta-percha; Philippine gums and resins.

French, Prof. A(rthur) W(illard), 202 Russell St, Worcester, Mass. *Civil engineering.* Battle Creek, Mich, July 13, 68. C.E, Dartmouth, 92. Practising engineer, 92–95; asst. prof. *civil eng,* Thayer Sch. Civil Eng, Dartmouth, 95–98; *prof, Worcester, 99–* Civil Eng; Eng. Educ. Properties of structural materials.

French, Prof. F(erdinand) C(ourtney), University of Nebraska, Lincoln, Nebr. *Philosophy.* Berkeley, Mass, Dec. 14, 61. A.B, Brown, 85; Berlin and Strasburg, 88–90; Brown, 90–91; Ph.D, Cornell, 92. Principal, High Sch, Westminster, Mass, 85–86; Johnston, R. I, 86–88; instr. math. and psychol, Brown, 90–91; prof. philos, Colgate, 92–94; Vassar, 94–01; lecturer philos. of religion, Colgate, 02–03; *prof. philos, Nebraska, 03–* Philos. Ass; Psychol. Ass; West. Philos. Ass. Ethics; philosophy of religion.—Relation of recent tendencies in the mental and moral sciences to religion.

French, Prof. G(eorge) H(azen), Carbondale, Ills. *Botany, Entomology.* Tully, N. Y, March 19, 41. A.M, Ills. Agr. Col, 73. Chemist, Ills. Agr. Col, 68–77; asst. state entomologist, Ills, 77–78; *prof. physiol. and plant path, S. Ills. Nor. Univ, 78–* Entom. Soc; Ass. Econ. Entom; Phila. Acad; St. Louis Acad; N. Y. Entom. Soc; S. Ills. Med. Ass; Canadian, French and Belgian Entom. Societies; hon. mem. Lübeck Soc. Nat. Sci. Entomology; epilepsy.—Epilepsy.

French, Dr. John S(haw), Jacob Tome Institute, Port Deposit, Md. *Mathematics.* North Fayette, Me, July 3, 73. A.B, Bowdoin, 95; fellow, Clark, 96–98, Ph.D, 98. *Prof. math, Jacob Tome Inst, 98–* Assoc. examiner math, Col. Entrance Exam. Board. Math. Soc. The pertingents to a plane curve; the general class of a plane curve.—The singularities of a plane curve.

French, Rev. Thomas, Jr, 40 Brantford Place, Buffalo, N. Y. *Physics, Mining engineering.* Cincinnati, O, Jan. 15, 48. A.B, Harvard, 72;

Ph.D, Heidelberg, 76. Asst. physics, Pennsylvania, 76–78; prof. physics and math, Urbana, 76–83; physics, Cincinnati, 83–00; substitute prof, Amherst, 02–03; *minister, New Jerusalem Church (Swedenborgian), 05–* Consulting city electrician, Cincinnati, 89; assoc. ed, 'Jour. Terrestrial Magnetism,' 99–00; manager, Santa Rita Mining Co, 01; lecturer, 03, 04. F.A.A; assoc. mem. Elec. Eng. Electric discharges through rarefied media; efficiency of different systems of electric illumination; comparative economy of illumination by gas and by electricity.—Science and religion.

Frerichs, Dr. Frederick W, 3828 Westminster Place, St. Louis, Mo. *Chemistry.* Etzel, Germany, March 23, 49. Ph.D, Göttingen, 74. Instr. chem, Göttingen, 74–79; supt, Mallinckrodt Chem. Works, St. Louis, 80–86; *sec'y, treas. and manager, Herf and Frerichs Chem. Co, 86–* Manager, Paint and Varnish Works of Hermann Frenkel, Leipzig; Merck and Co, St. Louis, 03–05; assoc. ed, 'Post Zeit. für Chem. Grossgewerbe'; mem. Int. Jury of Awards, La. Purchase Expos, 04. Gold medal, La. Purchase Expos. Chem. Soc; Soc. Chem. Indust; St. Louis Acad; St. Louis Chem. Soc. (pres, 03–06); Bunsen Gesell. Industrial chemistry; inorganic chemistry; laboratory apparatus.

Friedburg, Prof. L(ouis) H(enry), 529 W. 147th St, New York, N. Y. *Chemistry.* Hamburg, Germany, Sept. 17, 46. Ph.D, Göttingen, 70. Asst. to Prof. Bunsen, Heidelberg, 70; Prof. Aug. Kekulé, Bonn, 72; asst. to Prof. F. Woehler and Privat-Dozent, Göttingen, 73–74; *instr. chem, Col. City of N. Y, 75–* Asst. to Prof. C. F. Chandler, Columbia, 79; prof. chem, Manhattan, 80; Central Evening High Sch, 90–95; chem. and toxicol, Am. Vet. Col. and Flower Hosp. Med. Col, 92–97. Chem. Soc. Chemistry.

Fries, Dr. Harold H, 92 Reade St, New York, N. Y. *Chemistry.* Cincinnati, O, Jan. 17, 66. Sch. of Mines, Columbia, 85; Ph.D, Berlin, 87. F.A.A; Chem. Soc; Soc. Chem. Indust; British Ass; Chem. Verein.

Frisby, Prof. Edgar, U. S. N. (retired), 1607 31st St, N. W, Washington, D. C. **Mathematics, Astronomy.* Great Easton, England, May 22, 37. A.B, Toronto, 63, A.M, 64. Acting prof. math, Northwestern, 67–68; asst, U. S. Naval Observatory, 68–78, prof. math, U. S. N, 78–99. In charge Solar Eclipse Exped. to Cal, 80. F.A.A. (v. pres, 94–95); Astron. and Astrophys. Soc; Nat. Geog. Soc. Orbits of comets and kindred subjects.

Frizell, Jos(eph) P(almer), 75 Linden St, Dorchester District, Boston, Mass. *Engineering.* Barford, Que, March 13, 32. Private instruction. Employed in a cotton mill, Manchester, N. H, 52–54; asst, engineer's office, Manchester, 55–56; civil engineer, Lowell, Mass, 57–61, 66–67; construction of fortifications on Gulf Coast, 61–65; *practising and consulting engineer,* 72–78, *83–* Engineer, river and harbor improv, U. S. Eng. Dept, 67–72, 78–81; collaborator, 'Johnson's Civil Eng. Cyclopedia.' Engineering.

Frost, Prof. Edwin B(rant), Williams Bay, Wis. **Astrophysics, Astronomy.* Brattleboro, Vt, July 14, 66. A.B, Dartmouth, 86; Princeton, 87; A.M, Dartmouth, 89; Strasburg, 90–91. Instr, High Sch, Hancock, N. H, 86; physics and astron, Dartmouth, 87–90; volunteer and asst, Royal Observatory, Potsdam, Germany, 91–92; asst. prof. astron, Dartmouth, 92–95, prof, 95–02 (non. res, 98–02); *prof. astrophys. and astrophysicist, Yerkes Observatory, Chicago, 98–, director, 05–* Asst. ed, 'Astrophys. Jour,' 95–01, ed, 02– F.A.A. (sec'y, A, 96); Astron. and Astrophys. Soc; Astron. Gesell. Thermal radiation of the sun; sunspots; stellar spectroscopy; stellar velocities in line of sight.—Spectrographic determination of velocities of stars in line of sight; stellar spectra.

Frost, Dr. G(ilman) D(uBois), Hanover, N. H. *Anatomy, Obstetrics.* Randolph, Vt, May 7, 64. A.B, Dartmouth, 86, A.M, 89; M.D, Harvard and Dartmouth, 92. *Prof. anat, Med. Sch, Dartmouth, 93–* Sec'y, Med. Sch, Dartmouth. Ass. Anat; N. H. Med. Soc.

Frost, R(oyal) H(arwood), Harvard College Observatory, Arequipa, Peru, S. A. *Astronomy.* Salem, Mass, Feb. 25, 79. Cambridge Manual Training Sch, 95–97. *Asst, Harvard Col. Observatory,* 97–99, *Arequipa Branch, Peru, 99–* Astron. and Astrophys. Soc.

Frost, Prof. W(illiam) D(odge), 310 Bruen St, Madison, Wis. *Bacteriology.* Lake City, Minn, Sept. 13, 67. B.S, Minnesota, 93, M.S, 94; Ph.D, Wisconsin, 03. Biologist, Minn. State Board of Health, 94–95; instr. *bacter, Wisconsin, 95–02, asst. prof, 02–* Lecturer bacter, Wis. Col. Physicians and Surg, 99–01. M.A.A; Soc. Bact; Pub. Health Ass. Physiological botany; laboratory technique; antagonism among bacteria.—Effect of external conditions on bacteria.

Frothingham, Dr. Langdon, Harvard Medical School, Boston, Mass. *Pathology, Bacteriology.* Boston, April 21, 66. M.D.V, Harvard, 89; Prague, 90; Dresden, 90, 94. Asst. bacter, Yale, 91–94; instr. comp. path, Vet. Sch, *Harvard,* 95–00, asst. path, *Med. Sch,* 96–98, *Austin teaching fellow bacter, 00–* Ass. Path. and Bact; Vet. Med. Ass; Mass. Vet. Ass. (pres, 97–99); Boston Soc. Med. Sci. Tuberculosis; glanders; lesion caused by blastomycetes.—Cancer bodies in tumors of animals; rabies; glanders.

Frye, Alexis E(verett), 1728 Massachusetts Ave, Cambridge, Mass. *Geography.* North Haven, Me, Nov. 2, 59. LL.B, Harvard, 90, A.M, 97. Method teacher, Chicago Nor. Sch, 83–86; supt. schools, San Bernardino, Cal, 91–93; first supt. schools, Cuba, 99–01. Silver medal, La. Purchase Expos, 04. Res. mem. New Eng. Hist. Geneal. Soc. Rational basis of geographic facts.

Frye, Prof. T(heodore) C(hristian), University Station, Seattle, Wash. *Botany.* Washington, Ills, Sept. 15, 69. B.S, Illinois, 94; Ph.D, Chi-

cago, 02. Asst. bot, Chicago, 00–02; *prof.* biol, Morningside, 02–03; *bot, Washington (Seattle), 03–* M.A.A; Iowa Acad. Morphology of the Asclepiadaceae and Casuarina.—Microspore reduction in Cyperaceae.

Fuertes, Louis Agassiz, Cornell Heights, Ithaca, N. Y. *Ornithology.* Ithaca, Feb. 7, 74. A.B, Cornell, 97. M.A.A; mem. Ornith. Union. Illustrator of various books, government reports and scientific publications.—Ornithological illustrating.

Fuller, Dr. C(aleb) A(llen), 717 University Ave, Madison, Wis. *Bacteriology, Hygiene.* Providence, R. I, June 13, 76. Ph.B, Brown, 99, A.M, 00, Ph.D, 03. *Asst, Wis. State Hygienic Lab, 04–* M.A.A; Soc. Bact; Pub. Health Ass. Pollution of shell-fish by sewage; longevity of B. typhosus in water and sewage.

Fuller, George W(arren), 309 W. 84th St, New York, N. Y. *Sanitary science.* Franklin, Mass, Dec. 21, 68. B.S, Mass. Inst. Tech, 90. Biologist, Mass. State Board of Health, Lawrence Exp. Sta, 90–95; in charge pub. water purification, Louisville and Cincinnati, 95–99; *engineer and sanitary expert, N. Y. City, 99–* F.A.A; Soc. Nat; Soc. Bact; Chem. Soc; Pub. Health Ass; Civil Eng; Am. Water Works Ass; Boston Soc. Arts. Methods of purifying water and sewage; application of biology, chemistry and engineering to sanitary aspects of water supply and sewage disposal.

Fuller, Pres. Homer T(aylor), 1136 Benton Ave, Springfield, Mo. *Psychology, Geology, Chemistry.* Lempster, N. H, Nov. 15, 38. A.B, Dartmouth, 64, A.M, 67; Andover Theol. Sem, 67–68; Union Theol. Sem, 68–69; Ph.D, Dartmouth, 80. Principal, Fredonia Acad, N. Y, 64–67; instr. science, Kimball Union Acad, 68–69; pastor, Cong. Church, Peshtigo, Wis, 69–71; principal, St. Johnsbury Acad, Vt, 71–82; *pres,* Worcester, 82–94; *Drury, 94–* D.D, Iowa (Grinnell), 98. F.A.A; Geol. Soc; Mech. Eng. Wind drift; origin of hydrous silicates; technical education.

Fuller, M(yron) L(eslie), U. S. Geological Survey, Washington, D. C. *Geology, Hydrology.* Brockton, Mass, April 19, 73. B.S, Mass. Inst. Tech, 96. Asst. geologist, Mich. Geol. Surv, 97; asst. and instr. geol, Mass. Inst. Tech, 97–00; asst. geologist, *U. S. Geol. Surv,* 00–03, *chief, East. Sect, Div. Hydrol, 03–* Reviewer, miner. and geol. chem, 'Tech. Quarterly' and 'Rev. Am. Chem. Research,' 97–00; special agent, Paris Expos, 99–00. Walker prize, Boston Soc. Nat. Hist, 97, 05. F.A.A; Geol. Soc; Wash. Geol. Soc. Glacial geology; stratigraphic geology; oil and gas occurrence; detailed geologic surveying in Indiana, Illinois and New York.—Direction of works on artesian wells of Eastern United States.

Fullerton, Prof. George S(tuart), Columbia University, New York, N. Y. **Philosophy.* Fatehgarh, India, Aug. 18, 59. A.B, Pennsylvania, 79, A.M, 82; B.D, Yale, 83. Instr. *philos,* Pennsylvania, 83–85, adj. prof, 85–87, *prof,* 87–03; *Columbia, 03–* Dean, Grad. Sch, Pennsylvania, 89–90, Col, 94–96, v. provost, 94–98. Hon. Ph.D, Muhlenberg, 92, LL.D, 00. Psychol. Ass. (pres, 95); Philos. Ass. Metaphysics.

Fullmer, Prof. E(dward) L(awrence), Berea, O. *Biology.* Defiance, O, July 30, 70. B.S, Ohio State, 97, M.S, 98, fellow, 98–99. Lab. asst, Ohio State, 98–99; *prof. nat. science,* South Dakota, 99–03; *Baldwin, 03–* M.A.A; Ohio Acad. Cell division in pine seedlings; development of the microsporangia and microspores of Hemerocalis fulva.

Fulmer, Prof. Elton, Pullman, Wash. *Chemistry.* Onondaga Hill, N. Y, Feb. 6, 64. B.S, Nebraska, 87, A.M, 89. Instr. *chem,* Nebraska, 88–93; *prof, Wash. Agr. Col, 93–; state chemist, Wash, 99–* Chem. Soc; Soc. Chem. Indust. Sugar-beets; soils; lard from cottonseed-meal fed hogs.—Lard from cottonseed-meal fed hogs; effect of heat on cottonseed oil; the ripening of olive oil; iodin in fats and oils.

Fulton, Dr. Frank T(aylor), 169 Angell St, Providence, R. I. *Pathology, Medicine.* Westmoreland Co, Pa, April 28, 67. B.S, Knox, 94; A.B, Hopkins, 95, M.D, 99. Path. interne, Boston City Hosp, 99–00; *instr. path. and nor. histol, Brown, 00–; pathologist, R. I. Hosp, 00–* Ass. Path. and Bact; fel. R. I. Med. Soc; Boston Soc. Med. Sci. Infections with the bacillus aerogenes capsulatus.—Typhoid and related bacilli; bacillus of diphtheria and related bacilli.

Fulton, Chancellor Robert B(urwell), University, Miss. *Physics, Astronomy.* Sumter Co, Ala, April 8, 49. A.B, Mississippi, 69, A.M, 74. Instr. physics, *Mississippi,* 71–73, adj. prof. *physics and astron, 73–75, prof, 75–, chancellor, 92–* LL.D, Nashville, 94; South Carolina, 05. F.A.A; Acad. Polit. and Social Sci; Nat. Educ. Ass. (pres, Dept. Higher Educ, 98); S. Educ. Ass. (pres, 00, Dept. Higher Educ, 04, 05); Nat. Ass. State Universities (pres, 96–02); London Soc. Arts. Foucault's pendulum; prehistoric remains in Mississippi; underground water in Mississippi.

Fulton, Weston M(iller), 1202 W. Clinch St, Knoxville, Tenn. *Meteorology.* Hale Co, Ala, Aug. 3, 72. A.B, Mississippi, 92; M.S, Tennessee, 01. *Observer, U. S. Weather Bur, 93–; instr. meteorol, Tennessee, 98–* M.A.A; Nat. Geog. Soc. Meteorological instruments and methods.—Dielectric cohesion of vapors and gases.

Furness, Dr. C(aroline) E(llen), Vassar College, Poughkeepsie, N. Y. *Astronomy.* Cleveland, O, June 24, 69. A.B, Vassar, 91; Ph.D, Columbia, 00. Instr, High Sch, West Winsted, Conn, 91–92; Columbus, O, 92–94; *asst, Observatory, Vassar,* 94–98, *99–* F.A.A; Astron. and Astrophys. Soc. Reduction of astronomical photographs; telescopic observations of asteroids.—Reduction of photographs near North Pole.

Furness, Dr. W(illiam) H(enry), 3d, 1906 Sansom St, Philadelphia, Pa. *Ethnology.* Wallingford, Pa, Aug. 18, 66. A.B, Harvard, 88;

M.D, Pennsylvania, 91. *Sec'y and curator, Free Mus. of Science and Arts, Pennsylvania, 04–* Anthrop. Ass; Folk-lore Soc; Philos. Soc; Oriental Soc; Royal Geog. Soc; Anthrop. Inst. of Gt. Britain and Ireland. Ethnology; geography; home life of Borneo head-hunters; folk-lore of Borneo; life in the Luchu Islands; the Veddahs of Ceylon.—Manners and customs of the inhabitants of the Carolina Islands.

Fussell, Dr. M(ilton) Howard, 189 Green Lane, Manayunk, Philadelphia, Pa. *Medicine.* Chester Co, Pa, Nov. 24, 55. M.D, Pennsylvania, 84. Instr. clin. med, *Pennsylvania,* 96–02, lecturer, 98, *asst. prof. med, 02–* Am. Physicians; Am. Med. Ass; Phila. Path. Soc; Phila. Col. Physicians. Tubercle bacilli in sputum; spontaneous pneumothorax; acute leukemia.

G

Gable, Prof. George D(aniel), 205 E. Burlington St, Fairfield, Ia. *Mathematics.* Cherryville, Pa, June 10, 63. A.B, Lafayette, 86, A.M, 89, Ph.D, 91. Instr. math, Lafayette, 87–95; *prof. math. and sec'y of Faculty, Parsons, 95–* On ed. corps, Dept. Etymol, 'Standard Dict,' 90–94. M.A.A; Math. Soc.

Gaehr, Paul F(rederick), Ithaca, N. Y. *Experimental physics.* Thun, Switzerland, May 15, 80. A.B, Cornell, 02, A.M, 05. Asst. *physics, Cornell,* 01–03, *instr, 03–* Physical Soc. Photometry, with principal reference to study of instruments and standards.

Gage, Prof. S(imon) H(enry), 4 South Ave, Ithaca, N. Y. **Histology, Embryology.* Maryland, N. Y, May 20, 51. B.S, Cornell, 77. Asst. instr. vert. zool, *Cornell,* 78–81, asst. prof, 81–89, assoc. prof, 89–96, *prof. histol. and embryol, 96–* Co-editor, 'Am. Jour. of Anat.' Int. Cong. Arts and Science, St. Louis, 04 (chairman, Sect. Embryol.). F.A.A. (v. pres, 85, 92, 99); Soc. Nat; Soc. Zool; Ass. Anat; Micros. Soc; assoc. Am. Med. Ass; Wash. Acad. Life histories of animals; histology; embryology.—Comparative histology and embryology, especially of domestic animals and of some characteristic American forms.

Gage, Mrs. S. H. (Susanna Phelps), 4 South Ave, Ithaca, N. Y. *Embryology.* Morrisville, N. Y, Dec. 26, 57. Ph.B, Cornell, 80. F.A.A; Ass. Anat; Soc. Zool; Micros. Soc. Structure of muscle; comparative morphology of the brain; development of the human brain.—Comparative anatomy of the nervous system.

Gage, Stephen DeM(eritte), Experiment Station, Lawrence, Mass. *Bacteriology, Sanitary chemistry.* Durham, N. H, Jan. 4, 74. B.S, Mass. Inst. Tech, 96. Asst. bacteriologist, *Lawrence Exp. Sta,* 96–97, *in charge, Biol. Lab, 97–* Soc. Bact; Chem. Soc; Pub. Health Ass; New Eng. Water Works Ass; Mass. Ass. Boards Health; Boston Soc. Bact; Boston Soc. Civil Eng; Boston Soc. Arts. Water purification and sewage disposal; chemistry and bacteriology of water and sewage.

Gager, Prof. C(harles) Stuart, State Normal College, Albany, N. Y. *Biology.* Norwich, N. Y, Dec. 23, 72. A.B, Syracuse, 95; Pd.M, N. Y. State Nor. Col, 97; Ph.D, Cornell, 02. Lab. asst, Syracuse, 94–95; v. principal, Ives Sem, 95–96; *prof. biol. sciences and physiog, N. Y. State Nor. Col, 97–* Asst. bot, Summer Sch, Cornell, 01–02, instr, 05; collaborator, 'Jour. Applied Micros,' 01–02; lab. asst, N. Y. Bot. Garden, 04–05; acting prof. bot, Rutgers, 05; assoc. ed, 'Plant World,' 05. M.A.A; fel. Am. Geog. Soc; N. Y. State Sci. Teachers Ass. (mem. Committee on Physiog.); Albany Entom. Soc. (v. pres, 98–99). Development of pollen and spermatogenesis in Asclepiadaceae.—Oogenesis and fertilization in Asclepiadaceae; sporogenesis and fertilization in hybrids.

Gale, Dr. Arthur Sullivan, 281 Willow St, New Haven, Conn. *Mathematics.* Appleton, Wis, June 26, 77. A.B, Yale, 99, Ph.D, 01. *Instr. math, Yale, 02–* Math. Soc; Math. Verein. Geometry.

Gale, H(arlow), Psychological Laboratory, 810 Sykes Block, Minneapolis, Minn. *Psychology.* Minneapolis, June 29, 62. A.B, Yale, 85; Minnesota, 85–87; Yale, 87–89; Cambridge, 89–90; Leipzig and Berlin, 90–94. Instr. psychol, Minnesota, 94–03. Development of the nervous system; mental development of children.—Mental development of children, especially in regard to reasoning, ethics and esthetics.

Gale, Dr. Henry G(ordon), 5344 Greenwood Ave, Chicago, Ills. *Physics.* Aurora, Ills, Sept. 12, 74. A.B, Chicago, 96, fellow, 97–99, Ph.D, 99. Asst. *physics, Chicago,* 99–00, assoc, 00–02, *instr, 02–* Physical Soc. Applications of the interferometer.—Optical investigations.

Gale, Horace B(igelow), Natick, Mass. *Engineering.* Natick, Dec. 27, 61. B.S, Mass. Inst. Tech, 83. Prof. mech. and elec. eng, Washington (St. Louis), 86–91; Stanford, 91–92; consulting engineer for various firms, 92–02; *consulting engineer, Submarine Signal Co, Boston, 03–* Mech. Eng; Elec. Eng; etc. Thermodynamics; electric heating; transmission of power; concrete steel construction.—Submarine signalling.

Gallaudet, Dr. Bern B(udd), 84 Irving Place, New York, N. Y. *Anatomy, Surgery.* New York, Feb. 11, 60. A.B, Trinity (Conn.), 80, A.M, 83; M.D, Columbia, 84; Vienna, 86–87. Asst. demonstrator *anat, Columbia,* 87–91, demonstrator, 91–05, *adj. prof, 05–,* clin. lecturer *surg,* 91–97, *instr, 97–* Interne, N. Y. Hosp, 84–86; surgeon, Vanderbilt Clinic, 87–89; Bellevue Hosp, 89– Ass. Anat; N. Y. Surg. Soc. Surgery; anatomy.

Gallivan, Dr. Frank B(ernard), 113 W. Third St, S. Boston, Mass. *Chemistry.* Boston, Jan. 1, 72. A.B, Harvard, 93, A.M, 94, Ph.D, 97. Asst. chem, Harvard, 93–95, 96–97; asst. prof. anal. chem, Brooklyn Polytech, 97–00; *chemist,* Frazer and Co, N. Y, 00–04; *Dept. of Milk Investigation, Boston, 04–* Chem. Soc; Soc. Chem. Indust. Halogen derivatives of

benzol.—Various synthetic products with a view to their use in medicine.

Galloway, Dr. B(everly) T(homas), Takoma Park, D. C. **Botany.* Millersburg, Mo, Oct. 16, 63. B.S, Missouri, 84. Asst. hort, Missouri, 84–87; asst. pathologist, *U. S. Dept. Agr,* 87–88, pathologist and chief, Div. Veg. Path. and Physiol, 88–01, *chief, Bur. Plant Indust, 01–* LL.D, Missouri, 02. F.A.A. (sec'y, G, 93, 95); Bot. Soc; Soc. Plant Morph. and Physiol. Botany, plant physiology and pathology.

Galloway, Prof. T(homas) W(alton), Decatur, Ills. *Zoology.* Columbia, Tenn, Nov. 2, 66. A.B, Cumberland, 87, A.M, 89; A.M, Harvard, 90; Ph.D, Cumberland, 92; Harvard, 97–98. Prof. nat. sciences, Baird Col. for Women, 87–89; asst, Bot. Lab, Harvard, 89–91; prof. biol, Missouri Valley, 91–02, dean, 98–02; *prof. biol, James Millikin, 02–* F.A.A; Micros. Soc; Boston Soc. Nat. Hist. Strobilation; metamerism; regeneration.—Id; hybridization; genus Dero.

Gamble, Prof. E(leanor) A(cheson) McC(ulloch), Wellesley, Mass. *Psychology.* Cincinnati, O, March 2, 68. A.B, Wellesley, 89; Ph.D, Cornell, 98. Teacher Greek and psychol, Western Female Col, 89–90; Greek and Latin, Plattsburgh Nor. Sch, 91–95; instr. *psychol, Wellesley,* 98–03, *assoc. prof, 03–* Psychol. Ass. Smell intensities.—Exhaustion experiments in smell; the organic accompaniments of attention; the reproductive memory.

Gane, Dr. Henry S(tewart), Santa Barbara, Cal. *Paleontology.* West Newton, Mass, May 30, 69. A.B, Amherst, 91; fellow, Hopkins, 94–95, Ph.D, 95. Geologist, N. J. Geol. Surv, 92–93; asst. geologist, U. S. Geol. Surv, 95–97. Geol. Soc. Tertiary corals of North America.—Bird migration in Florida and California.

Gannett, Dr. Henry, 1829 Phelps Place, N. W, Washington, D. C. **Geography, Statistics.* Bath, Me, Aug. 24, 46. B.S, Harvard, 69; B.A.Met, Hooper Mining Sch, 70. Asst, Harvard Col. Observatory, 70–72; topographer, Hayden Surv, 72–79; *geographer, U. S. Geol. Surv, 82–* Geographer, Tenth, Eleventh and Twelfth Censuses; chairman, U. S. Board on Geog. Names. LL.D, Bowdoin, 99. Eighth Int. Geog. Cong. (sec'y). Geog. Ass; Geol. Soc; Nat. Geog. Soc; Am. Geog. Soc; Royal Scottish Geog. Soc. Geography; statistics; topography.

Ganong, Prof. W(illiam) F(rancis), 11 Massasoit St, Northampton, Mass. **Botany.* St. John, N.B, Feb. 19, 64. A.B, New Brunswick, 84, A.M, 86; A.B, Harvard, 87; Ph.D, Munich, 94. Asst. *bot,* Harvard, 87–89, instr, 89–93; *prof. and director, Bot. Garden, Smith, 94–* Hon. Ph.D, New Brunswick, 98. F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol. (sec'y, 97–); cor. mem. Can. Royal Soc. Plant morphology and ecology; natural history of New Brunswick.—Physiological phases of plant ecology.

Garber, Prof. J(ohn) F(rederick), Yeatman High School, St. Louis, Mo. *Botany.* Winfield, O, Sept. 30, 68. A.B, Westfield, 93; A.B, Illinois, 97; Ph.D, Chicago, 03. Principal, Edwards Acad, 90–91; instr. biol, High Sch, Houston, Tex, 97–00; prof. biol. and physiol, State Nor. Sch, River Falls, Wis, 03–05; *teacher bot, Yeatman High Sch, St. Louis, 05–* Life history of Ricciocarpus natans; dimorphism in Blissus leucopterus.

Garcia (y Barza), Regino, 161 Victoria St, Walled City, Manila, P. I. *Botany, Drawing.* Manila, Sept. 7, 40. Manila, 50–56; Escuela de Dibujo y Pintura, 57–62. Chief horticulturist, Manila Bot. Garden, 66–77; asst. forester, Forestry Service, and asst. chief, Bot. Garden, 77–98; *botanist, Bur. Forestry, Manila, 00–* Director, City Gardens, Manila, and prof, Univ. of Manila, 90–98; teacher bot, Nor. Pub. Sch, 02. Comendador de Isabel la Catolica; Caballero de Carlos III; Jardinero Mayor de los Real Catrimonio. Socio Soc. Española Hist. Nat; Barcelona Acad. Trees and plants of the Philippine Islands.—Rice in the Philippines.

Gardiner, Dr. Edw(ard) G(ardiner), 131 Mt. Vernon St, Boston, Mass. **Biology.* New York, N. Y, July 24, 54. B.S, Mass. Inst. Tech, 82; Ph.D, Leipzig, 84. Asst. and instr. biol, Mass. Inst. Tech, 85–92. M.A.A; Soc. Nat; Soc. Zool; Am. Acad. Turbellaria.

Gardiner, Rev. F(rederic), Yeates School, Lancaster, Pa. *Biology, Embryology.* Gardiner, Me, April 5, 58. A.B, Harvard, 80, A.M, 83. Prof. biol, Trinity (Conn.), 89–92; master, Pomfret Sch, 92–99; *head master, Yeates Sch, 99–* M.A.A; Soc. Nat; Soc. Zool; Am. Hist. Ass; Head Masters' Ass. Embryology of teleosts.

Gardiner, Prof. H(arry) Norman, 23 Crafts Ave, Northampton, Mass. **Philosophy.* Norwich, England, Nov. 6, 55. A.B, Amherst, 78; Union Theol. Sem, 79–82, fellow, 82–84 (Göttingen, 82; Leipzig, 83–84; Heidelberg, 84); A.M, Amherst, 85. Instr. languages, physics and chem, Glens Falls Acad, 78–79; *philos, Smith,* 84–90, *prof, 90–* Instr. psychol, Amherst, 91–92. Philos. Ass. (sec'y, 02–04); Psychol. Ass; Soc. Psychical Research. Greek philosophy; philosophy of religion; psychology of the emotions.—Aristotle's 'Parva Naturalia.'

Garman, Prof. Harrison, 638 S. Limestone St, Lexington, Ky. *Biology.* Stephenson Co, Ills, Dec. 27, 58. Hopkins. First asst, State Lab. Nat. Hist, Illinois, 83–89, asst. prof. zool, Illinois, 85–89; *entomologist and botanist, Agr. Exp. Sta, Ky. State, 89–; state entomologist, Ky, 97–* Asst. state entomologist, Ills, 83–85; prof. zool. and entom, Ky. State, 92–96; assoc. ed, 'Agr. Science.' Soc. Nat; Ass. Econ. Entom. (sec'y, pres.); Soc. Prom. Agr. Sci; Ass. Agr. Col. (chairman, Entom. Sect.). Economic entomology and botany; cave life.—Id; the genus Corisa.

Garner, Dr. W(ightman) W(ells), U. S. Department of Agriculture, Washington, D. C. *Chemistry.* Timmonsville, S. C, July 15, 75. A.B, South Carolina, 96; Ph.D, Hopkins, 00. Instr. chem, Tufts, 00–03; *asst. chemist, Bur. Chem, U. S. Dept. Agr, 03–* Chem. Soc. Action of urea on aromatic sulphon chlorids; substitution

processes in the fatty series; the stereoisomeric cinnamic acids.—Volumetric methods for determining water and fat in butters.

Garrey, Prof. W(alter) E(ugene), Cooper Medical College, San Francisco, Cal. *Physiology.* Wis, April 7, 73. B.S, Lawrence, 94; Berlin, 98; Ph.D, Chicago, 00. Instr. sciences, High Sch, West Aurora, Ills, 96–98; *prof. physiol, Cooper Med. Col, 00–* Instr. physiol, Woods Hole, 99–01. Comparative physiology; the tropisms; artificial parthenogenesis.—Effects of various saline solutions upon protoplasm.

Garriott, Prof. E(dward) B(ennett), Weather Bureau, Washington, D. C. *Meteorology.* Lockland, O, March 17, 53. Washington (St. Louis), 67–70. Asst. observer, *U. S. Weather Bur,* 74–75, observer, 76–87, meteorol. clerk, 88–91, chief, Div. Meteorol, 92–93, forecast official, 93–94, *prof. meteorol, 95–* M.A.A; Nat. Geog. Soc; Wash. Acad. Meteorology, especially weather and storm forecasting; West Indian hurricanes; frost and fog.—Storms of the Great Lakes illustrated and classified; atmospheric moisture and its relation to rainfall; local weather signs in United States; cold waves and frost; long range weather forecasting.

Garvin, John B(rewer), 4531 Grove St, Denver, Colo. *Chemistry.* Morristown, N. Y, Aug. 3, 61. St. Lawrence, 82–84; B.S, Illinois, 86; Colo. State Sch. of Mines, 89–90. *Instr. chem, East Side High Sch, Denver, 92–* Librarian and registrar, Colo. State Sch. of Mines, 90–92. M.A.A.

Gates, Prof. Fanny C(ook), Woman's College, Baltimore, Md. *Physics, Mathematics.* Waterloo, Ia, April 26, 72. A.B, Northwestern, 94, fellow, 94–95, A.M, 95; fellow, Bryn Mawr, 95–97; European fellow of Ass. Col. Alumnae (Göttingen and Zürich Polytech.), 97–98; Chicago, summer, 99; McGill, 02–03; research student, Cavendish Lab, Cambridge, 05. *Head, Dept. Physics, Woman's Col. of Baltimore, 98–* M.A.A; Physical Soc; Math. Soc. Radio-active bodies.—Effect of heat upon excited radio-activity; radio-active properties of certain chemical compounds; the conductivity of air due to sulphate of quinin.

Gatschet, Dr. A(lbert) S(amuel), 2020 15th St, Washington, D. C. **Anthropology, Ethnology.* St. Beatenberg, Switzerland, Oct. 3, 32. Bern and Berlin, 52–58. Ethnologist, U. S. Geol. Surv, 77–79; *linguist, Bur. Am. Ethnol, 79–* Hon. Ph.D, Bern, 92. Folk-lore Soc; Nat. Geog. Soc; Philos. Soc; Wash. Anthrop. Soc. Ethnological and linguistic investigations among the Indians.

Gaylord, Prof. Harvey R(ussell), 113 High St, Buffalo, N. Y. *Pathology.* Saginaw, Mich, Oct. 4, 72. M.D, Pennsylvania, 93. Volunteer asst. path, Path. Inst, Göttingen, 95–98; *director, State Cancer Lab, Buffalo, 98–, prof. surg. path, 99–* Pathologist, German Hosp, 99–; surgeon, Erie Co. Hosp, 00–; asst. surgeon, Buffalo Gen. Hosp; orthopedist, Children's Hosp. Ass. Path. and Bact; fel. Path. Gesell; Berlin Kom. für Krebsforschung. Fibrinoid degeneration; etiology of cancer and allied processes.—Cancer immunity.

Geer, Dr. William C(hauncey), 122 Hazen St, Ithaca, N. Y. *Chemistry.* Ogdensburg, N. Y, June 17, 76. A.B, Cornell, 02, fellow, 03–04, Ph.D, 05. Instr. science, High Sch, Nyack, N. Y, 98–99; asst. *chem, Cornell,* 02–03, *instr, 04–* Chem. Soc. (sec'y, Cornell Sect, 02–04). Mercury arc; thermoregulators; indium; theory of crystallization in three component systems.—The atomic weight of indium.

Gehrmann, Dr. Adolph, 3816 Ellis Ave, Chicago, Ills. *Bacteriology, Hygiene.* Decatur, Ills, July 19, 68. M.D, Northwestern, 90. Interne, Cook Co. Hosp, 90–92; prof. bacter, Chicago Post-Grad. Med. Sch, 92–94; bacteriologist and director, Lab, Chicago Dept. of Health, 94–03; *prof. bacter. and hygiene, Col. Physicians and Surg, Illinois; Dearborn Med. Col; pres. and bacteriologist, Columbus Med. Laboratories.* Bacteriologist streams exam, Chicago Sanitary Dist, 99–00. Pub. Health Ass; Am. Med. Ass; Ills. Med. Soc; Chicago Path. and Med. Societies; Chicago Academies Med. and Sci. Methods of sanitation, hygiene and medical instruction.

Geisler, Joseph F(rank), N. Y. Mercantile Exchange, Cor. Hudson and Harrison Sts, New York, N. Y. *Chemistry.* East Saginaw, Mich, March 20, 60. Ph.C, Michigan, 80, grad. student, 80–83. Asst. pharmacy and qual. chem. and to Prof. A. B. Prescott, Michigan, 80–83; chemist, Thurber, Whyland Co, 83–87; *official chemist, N. Y. Mercantile Exchange, 85–* Chemist, N. Y. State Dept. Agr. and N. Y. State Dairy Commissioner, 85– Ebert prize, Am. Pharmaceut. Ass, 89. M.A.A; Chem. Soc; Soc. Chem. Indust; Pharmaceut. Ass; London Chem. Soc. Analytical methods; chemistry of foods.—Chemistry of foods.

Gelston, Dr. L(ouis) M(erwin), 411 E. Washington St, Ann Arbor, Mich. *Bacteriology, Hygiene.* Northville, Mich, Oct. 9, 79. Stetson, 92–94; A.B, Michigan, 01, Ph.D, 03, M.D, 05. Asst. hygiene, Michigan, 01–04. Mich. Acad. Intracellular toxins of colon, typhoid and diphtheria bacilli.—Intracellular toxin of B. typhosus.

Genth, F(rederick) A(ugustus), Jr, Lansdowne, Pa. *Chemistry.* Philadelphia, Pa, Feb. 12, 55. B.S, Pennsylvania, 76, M.S, 78. Asst. chem, Pennsylvania, 81–83, asst. prof, 83–88; chemist, Dairy and Food Commission, Dept. Agr, Pa, 97–03. F.A.A; Chem. Soc; Philos. Soc; Chem. Gesell; Soc. chim. de Paris.

Genthe, Prof. Karl Wilhelm, Trinity College, Hartford, Conn. *Zoology.* Leipzig, Germany, June 5, 71. Maturitas, Thomas Gymnasium, 91; Ph.D, Leipzig, 97. Instr. zool, Michigan, 99–01; *nat. hist, Trinity (Conn.),* 01–03, *asst. prof, 03–* F.A.A; Soc. Zool; Hartford Sci. Soc. Mouth parts of Microlepidoptera; Alcippe.—Copepods; embryology of Ranatra.

George, Prof. R(ussell) D, University of Colorado, Boulder, Colo. *Geology, Petrology.*

Claremont, Ont, May 5, 66. Woodstock (Can.), 84–85; A.B, McMaster, 97, A.M, 98; fellow, Chicago, 98–00. Master, Woodstock (Can.), 91–95, science master, 95–96; instr. geol, Iowa, 00–01, asst. prof, 01–02, *prof.* petrol. and econ. geol, 02–03; *geol, Colorado, 03–* Asst, Ont. Bur. Mines, 98; U. S. Geol. Surv, 99; asst. geol, Chicago, summers, 00–02. M.A.A; Min. Eng; Nat. Geog. Soc; Colo. Sci. Soc.

Georgeson, Prof. C(harles) C(hristian), Sitka, Alaska. *Agriculture.* Denmark, June 26, 51. B.S, Mich. Agr. Col, 78, M.S, 82. Prof. agr. and hort, Tex. Agr. and Mech. Col, 80–83; agr, Col. of Agr, Imp. Univ, Tokyo, 86–89; Kas. State Agr. Col, 90–97; *special agent in charge Alaska investigations, U. S. Dept. Agr, 98–* Assoc. ed, 'Rural New Yorker,' 78–80; special agent dairy industry of Denmark, U. S. Dept. Agr, 93. Soc. Prom. Agr. Sci; Ass. Agr. Col; Royal Danish Agr. Soc. Agricultural crops; stock breeding; stock feeding.—Agricultural capabilities of Alaska.

Gerhard, W(illia)m Paul, 39 Strong Place, Brooklyn, N. Y. *Civil and sanitary engineering.* Hamburg, Germany, July 30, 54. Italian Col, Alexandria, Egypt, 64; Tech. Univ, Karlsruhe, 71–75. Asst. engineer to pres, Board of Public Works, St. Louis, 77–79; with Capt. Jas. B. Eads, 79–80; Col. Geo. E. Waring, Jr, R. I, 81–83; chief engineer, Durham House Drainage Co, N. Y, 83–85; *consulting engineer, 85–* Asst. engineer on railroad work, Hamburg, 77; ed, 'Building,' 85–86; sanitary engineer on staff of N. Y. state architect, Albany, 92–99. Pub. Health Ass; hon. cor. mem. Am. Inst. Archit; Nat. Geog. Soc; Am. Geog. Soc; Forestry Ass; New Eng. Water Works Ass; Brooklyn Inst. (chairman, Committee on Sanitation, Dept. Archit.); Brooklyn Eng. Club; N. Y. German Tech. Soc. Sewerage and sewage disposal; house drainage; gas lighting and gas fitting; fire protection, especially of theatres and institutions.

Germann, Dr. George B(althasar), 90 Norman Ave, Brooklyn, N. Y. *Psychology, Education.* Brooklyn, Feb. 27, 72. N. Y. Univ, 92–94; A.B, Columbia, 95, fellow, 98–99, Ph.D, 99. Teacher, pub. sch, Brooklyn, 89–91; asst. math, Columbia, 95–98, philos. and educ, 99–00, lecturer educ, 99–02, registrar, 00–02; *principal, Pub. Sch. No. 130, Brooklyn, 02–* F.A.A; Psychol. Ass; Math. Soc; Nat. Educ. Ass. Education; fatigue in the school room; growth and control of motor habits.

Gerould, Dr. John H(iram), Hanover, N. H. **Zoology.* Stoddard, N. H, Oct. 2, 68. Litt.B, Dartmouth, 90; A.B, Harvard, 92, A.M, 93, Ph.D, 95. *Instr. zool, Dartmouth, 95–* Soc. Nat; Soc. Zool. Invertebrate morphology and embryology, especially of echinoderms and sipunculids.—Comparative embryology of the sipunculids, especially the development of Phascolosoma.

Gerrish, Dr. Frederic Henry, 675 Congress St, Portland, Me. **Anatomy.* Portland, March 21, 45. A.B, Bowdoin, 66, A.M, M.D, 69. *Prof.* mat. med. and therapeut, *Bowdoin,* 73–82, anat, 82–05, *surg, 05–* Prof. physiol, Michigan, 74–75. LL.D, Michigan, 04; Bowdoin. Soc. Nat; Ass. Anat; Am. Acad. Med. (pres, 87–88); Surg. Ass; Pub. Health Ass; Me. Med. Ass. (pres, 91–92); Soc. Int. de Chirurg. Anatomy; surgery; prescription writing.

Getman, Dr. F(rederick) H(utton), 811 Atlantic St, Stamford, Conn. *Physical chemistry.* Oswego, N. Y, Feb. 9, 77. Rensselaer, 93–96; Virginia, 96–97; fellow, Hopkins, 02–03, Ph.D, 03, fellow by courtesy, 03–04. Instr. chem, High Sch, Stamford, Conn, 97–01; lecturer physical chem, Col. City of N. Y. Carnegie research asst. M.A.A; Chem. Soc; fel. Soc. Chem. Indust; fel. London Chem. Soc. Freezing-points of solutions; depression of the freezing-points of solutions of electrolytes.—Viscosity of solutions.

Gibbs, George, University Club, New York, N. Y. *Mechanical engineering.* Chicago, Ills, April 19, 61. M.E, Stevens, 82. Mech. engineer, Chicago, Milwaukee and St. Paul R. R, 84–97; *consulting engineer,* The Baldwin Locomotive Works and Westinghouse Elec. and Mfg. Co, 97–02; *Rapid Transit Subway Construction Co, N. Y, 01–* Mem. Pa. R. R. Board of Engineers, N. Y. Tunnel Lines and Terminal; N. Y. Central R. R. Commission; elec. engineer, Long Island R. R; consulting engineer, Interborough Rapid Transit Co; first v. pres, Westinghouse, Church, Kerr and Co; mem. Advisory Committee on Eng, Carnegie Inst; Jury of Awards, Transportation Dept, Columbian Expos, 93. Civil Eng; Mech. Eng; Master Car Builders and Master Mechanics Ass; British Inst. Civil Eng.

Gibbs, Dr. (Oliver) Wolcott, 138 Gibbs Ave, Newport, R. I. **Chemistry.* New York, N. Y, Feb. 21, 22. A.M, Columbia, 41; M.D, Col. Physicians and Surg, N. Y, 45; Berlin, 45; Giessen, 46; Paris, 47. Prof. chem. and physics, Free Acad. of N. Y, 48–63; Rumford prof. and lecturer *applied science, Harvard,* 63–87, *emer. prof,* 87– Reviewer foreign articles, 'Am. Jour. of Science.' LL.D, Columbia, 73; Harvard, 88; Columbian, 95; Toronto, 97; Pennsylvania, 02. Nat. Acad. (past pres.); F.A.A. (gen. sec'y, 55, v. pres, 67, pres, 97); hon. mem. Chem. Soc; hon. mem. Philos. Soc; assoc. fel. Am. Acad; hon. mem. London Chem. Soc; hon. mem. Chem. Gesell; hon. mem. Königl. Akad. der Wissensch. Ammonia-cobalt compounds; metals of platinum group; new methods of analysis; complex inorganic acids.

Giddings, Prof. Franklin H(enry), 150 W. 79th St, New York, N. Y. *Sociology.* Sherman, Conn, March 23, 55. A.B, Union, 77, A.M, 89. Lecturer polit. science, Bryn Mawr, 88–89, assoc, 89–91, assoc. prof, 91–92, prof, 92–94; lecturer *sociol, Columbia,* 91–94, *prof, 94–* Ed. writer, 'Springfield Republican,' 78; 'Springfield Union,' 84–88; mem. Ed. Board, 'Polit. Sci. Quarterly,' 94–; mem. Central Council, Charity Organ. Soc, 94; trustee, Union, 02–

Hon. Ph.D, Union, 97; LL.D, Oberlin, 00. Acad. Polit. and Social Sci. (v. pres, 90–, ed, 'Annals,' 90–94); Econ. Ass. (ed, 'Pub,' 91–93, first v. pres, 96–97); fel. Ethnol. Soc; Phila. Acad; Inst. Int. de Sociol. de Paris (v. pres, 01). Profit sharing; theory of interest; classification of social facts.—Statistical and historical studies of social causation, and the related concepts of evolution.

Gies, Prof. William J(ohn), 437 W. 59th St, New York, N. Y. **Biological chemistry.* Reisterstown, Md, Feb. 21, 72. B.S, Gettysburg, 93, M.S, 96; Ph.B, Yale, 94, Ph.D, 97; Bern, 99; Woods Hole, 01, 02. Lab. asst. zool, Yale, 95, physiol. chem, 94–96, asst. physiol. chem. and tutor physiol, 96–98; instr. *physiol. chem, Columbia,* 98–02, adj. prof, 02–05, *prof, 05–, gen. chem, Col. Physicians and Surg, 04–* Trustee, Irving, 00–; consulting chemist, N. Y. Bot. Garden, 02; sec'y, Faculty, Col. Physicians and Surg, Columbia, 05– F.A.A; (sec'y, K, 05–); Soc. Nat; Chem. Soc; Physiol. Soc; Soc. Chem. Indust; Soc. Physiol. Chem; Soc. Exp. Biol. and Med. (sec'y, 03–); fel. N. Y. Acad; Int. Ass. Bot; Chem. Gesell. Influences of various substances on metabolism and lymph formation; plant products; animal tissues studied quantitatively; Spermatozoa; actions of ions on ova and seedlings; peptic proteolysis; urinary constituents and methods of urinary analysis; antitoxic action of ions; food for metabolism experiments; mucoids; protagon; anemia of the brain; fat-proteid and mucoid-proteid compounds; American desert sands.—Toxicology of rare elements; mucoids; proteid reactions; ions on enzymes; metabolism methods; effects of hemorrhage on metabolism, blood and lymph; protagon; urinary constituents.

Gifford, Dr. John (Clayton), Princeton, N. J. *Forestry.* May's Landing, N. J, Feb. 8, 70. B.S, Swarthmore, 90; Œc.D, Munich, 99. Instr. econ. bot, Swarthmore, 90–94; forester, N. J. Geol. Surv, 95–96; asst. prof. forestry, Cornell, 00–03; *consulting forester.* Special agent, Bur. Forestry, 04. F.A.A; Forestry Ass. (v. pres, N. J. Sect.); Soc. Foresters; Can. Forestry Ass; Swiss Forestry Ass. Tropical forestry.

Gilbert, Dr. C(harles) H(enry), Stanford University, Cal. *Zoology.* Rockford, Ills, Dec. 5, 59. B.S, Butler, 79; M.S, Indiana, 82, Ph.D, 83. Asst. nat. sciences and modern languages, Indiana, 80–84; *prof.* nat. hist, Cincinnati, 84–88; *zool,* Indiana, 88–91; *Stanford, 91–* Naturalist in charge investigations, 'Albatross,' 89, 90, 02, 04; at frequent intervals asst. in charge field work, U. S. Fish Commission. Wash. Acad. Systematic ichthyology.—Bathybial fishes of Hawaiian Islands.

Gilbert, G(rove) K(arl), U. S. Geological Survey, Washington, D. C. **Geology, Physical geography.* Rochester, N. Y, May 6, 43. A.B, Rochester, 62, A.M, 67. Teacher, 62–63; asst, Ward's Nat. Hist. Mus, Rochester, 63–69; asst, Ohio Geol. Surv, 69–71; *geologist,* Wheeler Surv, 71–74; Powell Surv, 74–79; *U. S. Geol. Surv, 79–* Lecturer, Hopkins, 94–95; assoc. ed, 'Johnson's Encyclopedia.' Wollaston medal, London Geol. Soc, 99; LL.D, Rochester, 98; Wisconsin, 04. Nat. Acad; F.A.A. (sec'y, E, 85, v. pres, 87, pres, 00); Soc. Nat. (pres, 85–86); Geol. Soc. (pres, 92); Geog. Ass; Philos. Soc; Am. Acad; Wash. Geol. Soc. (pres, 95); Wash. Philos. Soc. (pres, 92); etc. Special studies in dynamic geology, Pleistocene geology, physical geography and lunar physiography; glacial studies in Alaska.—Mountain structure in the Great Basin; hydraulics of the California debris question.

Gilbert, Dr. J(oshua) Allen, 448 Sixth St, Portland, Ore. *Medicine.* Dayton, O, April 5, 67. A.B, Otterbein, 89; Union Biblical Sem, 91; fellow, Ph.D, Yale, 94; Leipzig, 97–98; M.D, Med. Col. of Ohio, 01. Asst, Psychol. Lab, Yale, 94–95; asst. prof. psychol, Iowa, 95–97; demonstrator anat, N. Pacific Dental Col, 02–03; *lecturer dermat, Med. Col, Oregon, 04–* Am. Med. Ass; Portland Med. Soc. Psychiatry.

Gilbert, Prof. Norman E(verett), Dartmouth College, Hanover, N. H. **Physics.* Middletown, Conn, Dec. 15, 74. A.B, Wesleyan, 95, A.M, 96; Ph.D, Hopkins, 01. Instr. science, Cayuga Lake Mil. Acad, Aurora, N. Y, 96–97; math, Genesee Wesleyan Sem, Lima, N. Y, 97–98; prof. *physics,* Hobart, 01–03; *asst. prof, Dartmouth, 03–* Mem. U. S. Naval Observatory Eclipse Exped. to N. C, 00; Sumatra, 01; Algeria, 05; temporary asst, Astrophys. Observatory, Smithsonian Inst, 02. M.A.A; Physical Soc. Relations between ether, matter and electricity; magnetic effect of electrical convection.

Gill, Prof. A(dam) Capen, Cornell Heights, Ithaca, N. Y. *Mineralogy, Petrography.* Chesterville, Me, Aug. 22, 63. A.B, Amherst, 84; Hopkins, 86–89; Ph.D, Munich, 93. Prof. math, Park, 84–86; *asst. prof. miner. and petrog, Cornell, 94–* F.A.A; Geol. Soc; Geol. Gesell. Crystallography; petrography.—Petrography; Sierra Tlayacac in Mexico.

Gill, Prof. Augustus H(erman), Canton Corner, Mass. **Chemistry.* Canton, Mass, Aug. 1, 64. B.S, Mass. Inst. Tech, 84; Ph.D, Leipzig, 90. Asst. *chem, Mass. Inst. Tech,* 84–87, instr, 90–94, *asst. prof, 94–* Water analyst, Mass. State Board of Health, 87–88. F.A.A; Chem. Soc. (reviewer, 'Jour.'); Soc. Chem. Indust; Chem. Gesell. Fuel, gas and oil analysis; determination of nitrates in water and of methane and hydrogen by explosion; cholesterol in olive oil.—Nitrates in water; spontaneous combustion test of oils; analysis of varnishes.

Gill, Dr. Theo(dore) (Nicholas), Cosmos Club, Washington, D. C. **Zoology, Comparative anatomy.* New York, N. Y, March 21, 37. A.M, Columbian, 65, M.D, 66. Librarian, Smithsonian Inst, 66–67; asst. librarian, Library of Congress, 67–75; *prof. zool, George Washington, 84–* Hon. Ph.D, Columbian, 70, LL.D, 95. Nat. Acad; F.A.A. (pres, 96); Soc. Nat; Soc. Zool; fel. Ornith. Union; Philos.

Soc; Wash. Acad; Wash. Entom. and Biol. Societies; etc. Ichthyology; conchology; mammalogy; ornithology.—Natural history and habits of fishes.

Gillespie, Dr. William, Princeton University, Princeton, N. J. *Mathematics.* Hamilton, Can, Nov. 3, 70. A.B, Toronto, 93; fellow, Chicago, 93–97, Ph.D, 00. Instr. *math, Princeton, 97–05, preceptor, 05–* Math. Soc.

Gillett, Prof. A(rthur) L(incoln), 1 Wethersfield Ave, Hartford, Conn. *Theology.* Westfield, Mass, Jan. 5, 59. A.B, Amherst, 80, A.M, 84. Instr. *apologetics, Hartford Theol. Sem,* 88–91, assoc. prof, 92–94, *prof, 94–* D.D, Amherst, 01. M.A.A; Philos. Ass; Oriental Soc. Apologetics.

Gillette, Prof. C(larence) P, 418 W. Myrtle St, Fort Collins, Colo. *Entomology, Zoology.* Lyons, Mich, April 7, 59. B.S, Mich. Agr. Col, 84; Illinois, 85; M.S, Mich. Agr. Col, 87. Asst. entom. and physiol, Mich. Agr. Col, 86–87; entomologist, State Exp. Sta, Ames, Ia, 88–90; head, Dept. Zool, Entom. and Physiol, Colo. Agr. Col, 91–05; *expert entomologist, La. Purchase Expos, 04–* F.A.A; Ass. Econ. Entom; Soc. Prom. Agr. Sci. Cynipidae; Typhlocybinae; economic entomology.—Orthoptera of Colorado; long-tongued bees.

Gillette, Prof. J(ohn) M(orris), State Normal School, Valley City, N. Dak. *Sociology, Philosophy.* Quitman, Mo, Aug. 9, 66. A.B, Park, 92; B.D, A.M, Princeton, 95; Ph.D, Chicago Theol. Sem, 98; Ph.D, Chicago, 01. Pastor, Presbyterian Church, Dodge City, Kas, 95–96; principal, Chadron Acad, Nebr, 98–00; pres, Female Acad, Jacksonville, 01–03; *prof. hist. and social sciences, State Nor. Sch, Valley City, N. Dak, 03–* Hon. A.M, Park, 95. After-images; culture conditions of a manufacturing group; relation of emotion to mathematical beliefs; methods of charity in Ireland and Denmark.—Causes of differences in educational attainments of the blind and the deaf; social foundations of education.

Gilman, Benjamin I(ves), Museum of Fine Arts, Boston, Mass. *Psychology.* New York, N. Y, Feb. 19, 52. A.B, Williams, 72; fellow, Hopkins, 81–82; Berlin, 82–83; Harvard, 83–85; Paris and Italy, 85–88. Instr. psychol, Clark, 92–93; *sec'y, Mus. of Fine Arts, Boston, 94–* Lecturer, Princeton, Columbia and Harvard, 90–91. Hon. A.M, Hopkins, 02. Psychol. Ass. The psychology of feeling and of art, especially music and the theory of dimensional manifolds; museology.—The bearing of Pueblo Indian melodies upon the origin of the musical scale; the nature of dimension.

Gilman, Dr. Daniel C(oit), 614 Park Ave, Baltimore, Md. *Education, History.* Norwich, Conn, July 6, 31. A.B, Yale, 52; Berlin, 54–55; A.M, Yale, 55. Librarian, Yale, 56–65, prof. physical and polit. geog, 63–72; pres, California, 72–75; *Hopkins, 75–01, pres. emer, 01–*; pres, Carnegie Inst, 02–04. Sec'y, Sheffield Sci. Sch, Yale; mem. U. S. Commission on Boundary Line between Venezuela and British Guiana, 96–97; pres, John F. Slater Educ. Fund; v. pres, Peabody Educ. Fund; pres, Nat. Civil Service Reform League; etc. LL.D, Harvard, 76; St. John's (Md.) 76; Columbia, 87; Yale, 89; North Carolina, 89; Princeton, 96; Toronto, 03; Wisconsin, 04; William and Mary, 05; Clark, 05; Officier de l'Instruction Pub. F.A.A; Oriental Soc. (pres.); Inst. Archeol. (v. pres.); Philos. Soc; Am. Acad; Conn. Acad; cor. mem. Mass. Hist. Soc; cor. mem. British Ass; Am. Acad. in Rome. History and methods of education; American biography.

Gilman, George Houghton, 179 W. 76th St, New York, N. Y. *Mathematics, Electricity.* New York, Aug. 8, 67. A.B, Columbia, 87, A.M, 88; fellow, Hopkins, 88–90; LL.B, N. Y. Law Sch, 92. Asst. physics, Columbia, 87–88; *practising attorney.* Math. Soc; N. Y. Math. Soc.

Gilmore, Charles W(hitney), U. S. National Museum, Washington, D. C. *Paleontology.* Pavilion, N. Y, March 11, 74. B.S, Wyoming, 01. Collector, Dept. Vert. Paleont, Carnegie Mus, 01–04; *preparator, Dept. Vert. Paleont, U. S. Nat. Mus, 04–* Paleont. Soc; Wash. Geol. Soc. Natural science; Reptilia; Elosaurus parvus; a new genus and species of the Sauropoda; presence of teeth in the American Ichthyosaurus; discovery of teeth in the type of Baptanodon natans; osteology of Baptanodon; Triceratops prorsus.—Baptanodon.

Gilpin, Dr. J(oseph) Elliott, 139 W. Lanvale St, Baltimore, Md. *Chemistry.* Baltimore, Nov. 21, 66. A.B, Hopkins, 89, Ph.D, 92. Instr. *chem, Hopkins, 92–95, assoc, 95–* Chem. Soc; Chem. Gesell. Action of chlorid of phosphorus on amids.

Girty, Dr. George H(erbert), 2462 Ontario Ave, N. W, Washington, D. C. *Paleontology.* Cleveland, O, Dec. 30, 69. A.B, Yale, 92, Ph.D, 94. *Paleontologist, U. S. Geol. Surv, 95–* Hon. custodian Carboniferous fossils, U. S. Nat. Mus. F.A.A; Soc. Nat; Wash. Acad; Wash. Geol. Soc; Wash. Biol. Soc. Carboniferous invertebrate paleontology of United States.

Glashan, Dr. J(ohn Stuart) C(adenhead), 444 Maclaren St, Ottawa, Can. *Mathematics.* Ellon, Scotland, Jan. 23, 44. Private study. First asst, Provincial Model Sch, Toronto, 64–67; *inspector, pub. schools,* Middlesex, Can, 71–76; *Ottawa, 76–* Mem. Central Committee of Examiners for Ont, 76–86; Head Quarters Board of Examiners, Royal Mil. Col, Can, 90–95; Board of Civil Service Examiners, Dominion of Can, 93– LL.D, Toronto. Math. Soc; Am. Hist. Ass; fel. Can. Royal Soc. The theorems of Taylor, Lagrange and Cayley; quintic and cyclotomic equations.—Septic equations; matricular analysis of the concomitants of quantics.

Glasoe, Prof. P(aul) M(aurice), Northfield, Minn. *Chemistry.* Spring Grove, Minn, Aug, 24, 73. A.B, Minnesota, 97, fellow, M.S, 98, Ph.D, 02. Asst. chem, Minnesota, 95–97, instr, 98–01; *chem. and physics, St. Olaf,* 01–02, *prof, 03–*

Chem. Soc. Derivatives of camphor oxim.—Brown cheese.

Gleason, H(enry) A(llan), 511 Johns St, Champaign, Ills. *Botany.* Dalton City, Ills, Jan. 2, 82. B.S, Illinois, 01, A.M, 04; fellow, Ohio State, 04–05. Curator, Herbarium, Illinois, 00–04, asst. bot, 01–03, instr, 03–04. Field collector, Dept. Hort, Illinois, 00–01. M.A.A. Phytogeography; taxonomy of spermaphytes.—Phytogeography of Illinois.

Glenn, Dr. L(eonidas) C(halmers), Vanderbilt University, Nashville, Tenn. *Geology.* Crowders Creek, N. C, Sept. 9, 71. A.B, South Carolina, 91; Ph.D, Hopkins, 99. *Adj. prof.* geol. and biol, South Carolina, 99–00; *geol, Vanderbilt, 00–; asst. geologist, U. S. Geol. Surv, 00–* Special work, Md. and N. C. Geol. Surveys. F.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Eng. Ass. of the South; Wash. Acad; Wash. Geol. Soc; S. C. Hist. Soc. Physiographic geology; Miocene paleontology.—Devonian and Carboniferous stratigraphy; occurrence of oil and gas in western New York; initial stream development; bibliography of North and South Carolina geology; cartography of North and South Carolina; Appalachian coal field geology.

Glenn, William, 1348 Block St, Baltimore, Md. *Chemistry, Mining engineering.* Norfolk, Va, April 6, 40. Va. Col. Inst, 55. Asst. engineer, B. and O. R. R, 56–61; lieut. engineers, C. S. A, 61–65; mining engineer, Tyson Mining Co, 66–84; *manager, Baltimore Chrome Works, 84–* F.A.A; Chem. Soc; Soc. Chem. Indust; Min. Eng. Geologic history of asphalt, copper ores and chromite; metallurgy of copper; chemical technology of alkali dichromates; dust explosions.—Stability of chromic acid and of alkali dichromates.

Glover, Dr. James W(aterman), Ann Arbor, Mich. *Mathematics, Mechanics, Statistics.* Clio, Mich, July 24, 68. B.L, Michigan, 92; A.B, Harvard, 93, Morgan fellow, 92–94, A.M, 94, Ph.D, 95. Junior instr. math, *Michigan,* 95–99, senior instr, 99–03, *asst. prof. math. and lecturer insurance, 03–* Math. Soc; Verein Versicherungswissensch. Theory of groups; partial differential equations; asymptotes; graduation of mortality tables.—Graduation of mortality tables and reduction of vital statistics.

Goddard, Dr. P(liny) E(arle), 2523 Hilgard Ave, Berkeley, Cal. *Ethnology.* Lewiston, Me, Aug. 24, 69. A.B, Earlham, 92, A.M, 96; Ph.D, California, 04. Asst. *anthrop, California,* 01–02, *instr, 02–* Anthrop. Ass; Philol. Ass; Folklore Soc. Phonetics and mechanical records of language.—Phonology of the Hupa language.

Goessmann, Prof. Charles A(nthony), Amherst, Mass. **Chemistry.* Naumburg, Germany, June 13, 27. Ph.D, Göttingen, 52. Asst, Royal Chem. Lab, Göttingen, 51–57, lecturer chem. and pharmacy, 54–57; chemist and manager, sugar refinery, Phila, 57–60; chemist, Salt Co. of Onondaga, N. Y, 60–69; *prof.* physics and chem, Rensselaer, 60–63; *chem, Mass. Agr. Col, 69–; chemist, Mass. State Board of Agr. and state inspector of commercial fertilizers, 73–; analyst, State Board of Health, 87–* Director and chemist, Mass. Agr. Exp. Sta, Amherst, 82–95; for. mem. Committee on Plant Food, Vienna Exhib, 90; hon. director, Hatch Exp. Sta, Mass. Agr. Col, 95–; hon. representative of U. S. Dept. Agr. to Germany, 99. Diploma from Congress, 93; LL.D, Amherst, 89. F.A.A; Chem. Soc. (pres, 87); Ass. Off. Agr. Chemists (chairman, 81–82); Soc. Prom. Agr. Sci; Forestry Ass; Statist. Ass; Nat. Geog. Soc; Mass. Hort. Soc; hon. mem. N. Y. State Agr. Soc; Buffalo Nat. Hist. Soc; Erlangen Physik. und Med. Gesell. Sugar plants and manufacture of sugar; saline deposits and brines; stock feeding; growth and composition of plants; general agriculture.—Chemistry of soils and plant foods as relating to the growth and composition of plants.

Gold, Theodore S(edgwick), West Cornwall, Conn. *Agriculture.* Madison, N. Y, March 2, 18. A.B, Yale, 38, A.M, 41. Connected with Cream Hill Agr. Sch, 45–69; sec'y, Conn. Board of Agr, 66–00; mem. Board of Control, Conn. Agr. Exp. Sta, 76–; trustee, Conn. Agr. Col. and Storrs Exp. Sta, 81–00. F.A.A; Forestry Ass; fel. Conn. Hist. Soc. (v. pres.). Agriculture.

Golden, Miss K(atherine) E(liza), Purdue University, Lafayette, Ind. *Botany.* Stratford, Can, April 29, 69. B.S, Purdue, 90, M.S, 92. Asst. botanist, Ind. Exp. Sta, 90–93; instr. *biol, Purdue,* 93–01, *asst. prof, 01–* Special lecturer, Training Sch. for Nurses, St. Elizabeth Hosp, Lafayette, Ind. F.A.A; Forestry Ass; fel. Nat. Sci. Club; fel. Ind. Acad. Fermentation; structure of wood.—Enzymes in cereals; structure of wood.

Goldsborough, Prof. W(inder) E(lwell), 919 State St, Lafayette, Ind. *Electrical engineering.* Baltimore, Md, Oct. 10, 71. M.E, Cornell, 92. Adj. prof. *elec. eng,* Arkansas, 93; *prof, Purdue, 94–* Chief, Dept. Elec, La. Purchase Expos, 02; with J. G. White and Co, N. Y, 05. Knight of the Crown of Italy. Int. Elec. Cong, St. Louis, 04 (v. pres.). Elec. Eng. (v. pres.); Eng. Educ; Electrochem. Soc; British Inst. Elec. Eng. Electromagnetic phenomena.

Goldschmidt, Dr. S(amuel) A(nthony), 43 Sedgwick St, Brooklyn, N. Y. *Chemistry.* New York, N. Y, Sept. 17, 48. A.B, Col. City of N. Y, 68; E.M, Columbia, 71; Ph.D, Emory, 75; A.M, Col. City of N. Y, 79. *Pres, Columbia Chem. Works, 80–* F.A.A; fel. Chem. Soc; fel. London Chem. Soc.

Gomberg, Prof. Moses, 841 E. University Ave, Ann Arbor, Mich. **Chemistry.* Elizabetgrad, Russia, Feb. 8, 66. B.S, Michigan, 90, M.S, 92, Sc.D, 94; Munich, 96–97; Heidelberg, 97. Instr. chem, *Michigan,* 93–96, 97–99, asst. prof. *org. chem,* 99–02, junior prof, 02–04, *prof, 04–* F.A.A; Chem. Soc; Wash. Acad; Chem. Gesell. Tetraphenylmethane; trivalent carbon.—Trivalent carbon; tetravalent oxygen.

Gooch, Prof. F(rank) A(ustin), 291 Edwards St, New Haven, Conn. **Chemistry.* Watertown, Mass, May 2, 52. A.B, Harvard, 72; Vienna, 75–76; A.M, Ph.D, Harvard, 77. Expert special agent of U. S. Geol. Surv, Tenth Census, 79–81; chemist, Northern Transcont. Surv, 81–84; U. S. Geol. Surv, 84–86; *prof. chem, Yale, 85–* Hon. A.M, Yale, 87. Nat. Acad; F.A.A; Chem. Soc; Am. Acad; Conn. Acad; N. Y. Acad; Wash. Philos. Soc; Chem. Gesell; etc. Inorganic and analytical chemistry.—Analytical methods.

Goodale, Prof. George Lincoln, Cambridge, Mass. **Botany.* Saco, Me, Aug. 3, 39. A.B, Amherst, 60; M.D, Harvard, 63. Prof. mat. med. and nat. science, Bowdoin, 69–72; instr. *bot, Harvard,* 72–73, asst. prof, 73–78, *prof,* 78– Assoc. ed, 'Am. Jour. of Science,' 88– LL.D, Amherst, Bowdoin and Princeton. Nat. Acad; F.A.A. (v. pres, 89, pres, 90); Soc. Nat; Ass. Anat; Physiol. Soc; Am. Acad; Philos. Soc; hon. fel. N. Y. Acad; etc. Economic botany; improvement of useful plants and their products; improvement in quality and increase in yield of products of industrial plants, especially at the Harvard Experiment Station in Cuba.

Goodale, Dr. J(oseph) L(incoln), 397 Beacon St, Boston, Mass. *Laryngology.* Saco, Me, Jan. 22, 68. A.B, Harvard, 89, A.M, M.D, 93. Asst. physician diseases of the throat, Mass. Gen. Hosp, 94; Boston Children's Hosp, 95. F.A.A; Ass. Path. and Bact; Laryngol. Ass; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. Diseases of nose and throat.—Pathology of the lymphoid tissue of the throat.

Goode, Dr. J(ohn) Paul, University of Chicago, Chicago, Ills. *Geography.* Stewartville, Minn, Nov. 21, 62. B.S, Minnesota, 89; fellow, Chicago, 96–97; Ph.D, Pennsylvania, 01. Prof. nat. science, State Nor. Sch, Moorhead, Minn, 89–98; physical science and geog, Eastern Ills. State Nor. Sch, 99–01; instr. *geog,* Pennsylvania, 01–03; *asst. prof, Chicago, 03–* Instr. physiog. and meteorol, Chicago, summers, 97–00, 02; co-editor, 'Jour. of Geog,' 01–04. F.A.A; Geog. Ass; Nat. Geog. Soc; Minn. Acad; Phila. Geog. Soc; Chicago Geog. Soc. (pres, 04–). Geography; physiography; economic geography.—Economic geography of America.

Goode, Richard U(rquhart), U. S. Geological Survey, Washington, D. C. *Surveying, Geography.* Bedford, Va, Dec. 8, 58. Virginia. Asst. engineer, Army Eng. Corps, 77–78; topographer and geographer, U. S. Geol. Surv, 79–82; engineer and topographer, Northern Transcont. Surv, 82–84; *topographer and geographer, U. S. Geol. Surv, 84–* Engineer and astronomer, Panama Canal Co, 88. Nat. Geog. Soc. (chairman, Committee Tech. Meetings); Wash. Acad. Geography; topographic methods.

Goodell, Geo(rge) A(rthur), 43 Curve St, Wellesley, Mass. *Chemistry.* Westminster, Vt, Sept. 16, 71. A.B, Amherst, 94; A.M, Columbia, 98. Principal, Deerfield Acad, Mass, 95–97; asst. *chem,* Barnard, Columbia, 98–00, tutor, Col. Physicians and Surg, 00–04; *instr, Wellesley, 04–* Chem. Soc. Volumetric determination of lead.

Goodenough, Prof. G(eorge) A(lfred), 607 W. Elm St, Urbana, Ills. *Mechanical engineering.* Davison, Mich, May 3, 68. B.S, Mich. Agr. Col, 91; M.E, Illinois, 00. Instr. mech, Mich. Agr. Col, 91–93; *mech. eng, Illinois,* 95–97, *asst. prof, 99–* Math. Soc; Eng. Educ.

Goodspeed, Dr. Arthur W(illis), 4325 Sansom St, Philadelphia, Pa. (Sept. to June); Hopkinton, N. H. (June to Sept.). **Physics.* Hopkinton, Aug. 8, 60. A.B, Harvard, 84; Ph.D, Pennsylvania, 89. Asst. *physics, Pennsylvania,* 84–85, instr, 85–89, asst. prof, 89–04, *prof, 04–* Mem. Jury of Awards, Nat. Export Expos, 99. F.A.A; Physical Soc; Philos. Soc. (sec'y, 00–); Am. Röntgen Ray Soc. (v. pres, 01–02, pres, 02–03); N. H. Antiq. Soc. (v. pres, 96–); London Soc. Arts. Röntgen rays and their applications.—Constants of the induction coil; radioactivity.

Goodwin, Prof. H(arry) M(anley), 232 Townsend St, Boston, Mass. **Physics, Electrochemistry.* Boston, April 18, 70. B.S, Mass. Inst. Tech, 90; Ph.D, Leipzig, 94. Asst. *physics, Mass. Inst. Tech,* 90–92, instr, 92–97, asst. prof, 97–03, *assoc. prof, 03–* F.A.A; Physical Soc; Astron. and Astrophys. Soc; Electrochem. Soc; Am. Acad. Physical and electrochemical studies on the voltaic cell; viscosity of mercury vapor; vapor pressure determinations of certain ether solutions; electric conductivity of dilute acid solutions; dielectric constant of liquid ammonia; Billinger's method of absolute potential measurements.—Electrical conductivity of fused salts.

Goodyear, W(illia)m H(enry), Museum, Eastern Parkway, Brooklyn, N. Y. *History of art.* New Haven, Conn, April 21, 46. A.B, Yale, 67; Heidelberg, 68; Berlin, 68–69; Syria and Greece, 69; Italy, 70; Egypt and Greece, 91; Italy, 95, 01. Teacher hist, N. Y. private schools, 71–74; lecturer art hist, various institutions, 74–; curator, Metropolitan Mus. of Art, 81–88; *curator fine arts, Mus. of Brooklyn Inst, 99–* Hon. A.M, Yale, 04. Hon. mem. Sect. Egyptol, Ninth Oriental Cong. F.A.A; fel. Ethnol. Soc; Archeol. Inst; cor. mem. Phila. Numis. and Antiq. Soc; Brooklyn Inst. (pres, Dept. Fine Arts, 04). Ancient, oriental, classic, medieval and renaissance periods for architecture, sculpture, painting and ornament.—Id; medieval architectural refinements.

Gordinier, Dr. H(ermon) C(amp), 89 Fourth St, Troy, N. Y. *Medicine.* Troy, May 21, 64. M.D, Albany Med. Col, 86; Prague, 89–90. Instr. physical diagnosis, *Albany Med. Col,* 89–95, *prof. anat. of the nervous system and physiol, 95–* Physician, Samaritan Hosp. and Protestant Orphan Asylum, Troy. Hon. A.M, Williams. Am. Physicians; Neur. Ass; Am. Med. Ass; N. Y. State Med. Ass; N. Y. State Med. Soc. Neurology; neuropathology.

Gordon, Prof. C(harles) H(enry), 5516 N. 14th Ave, Seattle, Wash. *Geology, Petrography, Geography.* Caledonia, N. Y, May 10, 57. B.S, Albion, 86, M.S, 90; Ph.D, Chicago, 95; Heidelberg, 97–98. Teacher, pub. schools, Keokuk, Ia, 87–90; instr. nat. hist, Acad, Northwestern, 90–93; supt. schools, Beloit, Wis, 95–97; Lincoln, Nebr, 99–03; lecturer sch. management, Nebraska, 00–03, geol. and petrog, 01–03; acting prof. geol, Washington (Seattle), 03–04; prof. geol. and miner, N. Mex. Sch. Mines, 04–05; *asst. geologist, U. S. Geol. Surv, 05–* Asst, Mo. Geol. Surv, 90–92; Iowa Geol. Surv, 93–95; Mich. Geol. Surv, 98–99. F.A.A; Geol. Soc. Structure and classification of gneisses.—Geologic formations and orogenesis in New Mexico; petrography of igneous rocks of New Mexico.

Gordon, Prof. Clarence McC(heyne), Danville, Ky. *Physical chemistry.* Fannettsburg, Pa, April 14, 70. A.B, Princeton, 91, fellow, 91–92, A.M, 93; Ph.D, Göttingen, 97. Asst. physics, Williams, 93–94, instr. physics and math, 94–95; asst. physical chem, Harvard, 97–98; *prof. physics, Central Univ. of Ky, 98–* M.A.A; Physical Soc; Electrochem. Soc. Polarization capacity; electromotive forces of fused salt cells.—Polarization of aluminum electrodes.

Gordon, Dr. Kate, Mt. Holyoke College, South Hadley, Mass. *Psychology.* Oshkosh, Wis, Feb. 18, 78. Ph.B, Chicago, 00, Ph.D, 03; Ass. Col. Alumnae fellow, 03–04. Instr. philos, *Mt. Holyoke,* 04–05, *assoc. prof. psychol, 05–* Memory and attention; affective memory.—Color vision of the peripheral retina.

Gordy, Prof. J. P, New York University, Washington Square, New York, N. Y. *History, Education.* Salisbury, Md, 52. Ph.D, Leipzig, 84. *Prof.* pedag, Ohio (Athens), 85–95; educ, Ohio State, 95–00; *hist. of educ, N. Y. Univ, 01–* Ed, 'Jour. of Pedag,' 85–88. LL.D, Western Univ. of Pa. American history; philosophy; history of education.—The place and function of imitation in human development.

Gore, Prof. James H(oward), 2210 R St, Washington, D. C. *Mathematics, Geodesy.* Gore, Va, Sept. 18, 56. Richmond, 74–77; B.S, Columbian, 77, Ph.D, 88; Leyden, Berlin and Brussels, 94, 98. Tutor *math, George Washington,* 77–80, asst. prof, 80–82, prof, 82–02, *head prof, 02–* Astronomer, U. S. Geol. Surv; civilian expert, U. S. Coast and Geod. Surv; pres, Jury, Columbian Expos, 93; Paris Expos, 00; commissioner gen, expositions of Antwerp, Amsterdam and Brussels. G. Officier, Order of Leopold; Officier, Order of Wasa, White Elephant, Légion d'honneur and Mérite civile. Metrol. Soc. (sec'y); Wash. Acad. (v. pres.); Wash. Philos. Soc. (pres.); Dutch Acad; Imp. Russian Geog. Soc. Geodesy.—Compilation of mathematical factors and formulas.

Gore, John K(insey), 157 Cleveland St, Orange, N. J. *Mathematics, Actuarial science.* Newark, N. J, Feb. 3, 64. A.B, Columbia, 83, A.M, 86. Instr. math. and physics, Woodbridge Sch, N. Y, 84–91; mathematician, *Prudential Ins. Co,* 94, asst. actuary, 95–97, *actuary, 97–* Math. Soc; Actuarial Soc.

Gorham, Prof. F(rederic) P(oole), 151 Meeting St, Providence, R. I. *Biology.* Providence, April 29, 71. A.B, Brown, 93, A.M, 94. Instr. *biol, Brown,* 93–00, asst. prof, 00–01, *assoc. prof, 01–* Instr. econ. geol, Brown; geol. ed, 'Observer.' Soc. Nat; Soc. Bact. (sec'y and treas, 04); Ass. Path. and Bact; Pub. Health Ass; Boston Soc. Med. Sci. Crustacean embryology; diphtheria bacillus; phosphorescent bacteria.—Phosphorescent bacteria; diphtheria bacillus.

Goss, Prof. W(illiam) F(reeman) M(yrick), 811 Columbia St, Lafayette, Ind. *Steam engineering.* Barnstable, Mass, Oct. 7, 59. Certificate, Mass. Inst. Tech, 79, 88–89. Instr. mech. arts, *Purdue,* 79–83, *prof.* practical mech, 83–90, *exp. eng, 90–, dean, Sch. of Eng, 00–* Assoc. ed, 'Railroad Gazette'; mem. Jury of Awards, Columbian Expos, 93. Hon. M.S, Wabash, 92; Eng. D, Illinois, 04. F.A.A; Mech. Eng. (mem. Council); Eng. Educ; Western Railway Club; Ind. Eng. Soc; Ind. Acad; Master Car Builders and Master Mechanics Ass. (mem. various committees); Int. Ass. Testing Materials. Testing locomotives; car axles; friction brakes; freight cars; front-end arrangement of locomotives; economic value of higher steam pressures; etc.

Gotthelf, Dr. August H(enry), Hastings-on-Hudson, N. Y. *Chemistry.* New York, N. Y, Sept. 7, 76. B.S, Columbia, 97, A.M, 98, Ph.D, 00. *Chemist, U. S. Pharmacopœia Revision Committee on Inorganics, 02–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Action of nitrils on organic acids.

Gottschalk, Prof. V(ictor) Hugo, Rolla, Mo. *Chemistry.* St. Louis, Mo, May 19, 78. B.S, Missouri, 98, M.S, 00; Harvard, summer, 00; Chicago, summer, 01; Cornell, 01–02. Asst, U. S. Assay Office, Kansas City, Mo, 98; Chem. Dept, Marion Sims Med. Col, 99; asst. *chem, Missouri,* 99–00, instr, 00–01, *prof. and head of Dept, 01–* Chem. Soc; St. Louis Chem. Soc. New method for determination of aluminum; oxids of aluminum; vapor composition; action of Mg. and Ca salts on soap solution.—Vapor composition; mathematical chemistry; velocity of reaction in the system $(CH_3CO)_2O + H_2O = 2CH_3COOH$.

Gould, Prof. Cha(rle)s N(ewton), Norman, Okla. *Geology, Hydrology.* Lower Salem, O, July 22, 68. B.S, Southwest Kansas, 99; A.M, Nebraska, 00. Instr. geol, *Oklahoma,* 00–02, *prof,* 02–03, *geol. and miner, 03–; res. hydrographer, U. S. Geol. Surv, 02–* M.A.A; Geol. Soc; Min. Eng; Kas. Acad. Geology and water resources of the southern part of the Great Plains.—Water resources of the Panhandle of Texas; the gypsum deposits of Oklahoma and Texas; clays and building stones of Oklahoma and Indian Territory.

Gould, Dr. Geo(rge) M(ilbry), 1722 Walnut St, Philadelphia, Pa. *Biology, Ophthalmology.* Auburn, Me, Nov. 8, 48. A.B, A.M, Ohio

Wesleyan, 73; M.D, Jefferson Med. Col, 88. *Practising ophthalmologist, 88–* Ed, 'Am. Med,' 'Biographic Clinics,' medical dictionaries, year books, text-books, etc. F.A.A; Ophthal. Soc; Am. Med. Ass; Phila. Col. Physicians. Medical ophthalmology, philology and biology; psychology.

Grabau, Dr. A(madeus) W(illiam), Columbia University, New York, N. Y. **Paleontology, Stratigraphy.* Cedarburgh, Wis, Jan. 9, 70. B.S, Mass. Inst. Tech, 96; M.S, Harvard, 98, fellow, 98–99, Sc.D, 00. Student asst. paleont, Mass. Inst. Tech, 92–96, instr. paleont. and asst. geol, 96–97; instr. geol, Rensselaer, 99–00, prof, 00–01; lecturer *paleont, Columbia,* 01–02, *adj. prof, 02–* Pub. guide and lecturer, Mus. of Boston Soc. Nat. Hist, 92–00; lecturer paleont, Tufts, 00–01. F.A.A; Geol. Soc; fel. N. Y. Acad; Boston Soc. Nat. Hist. Succession of faunas in middle Devonic of United States; phylogeny of invertebrates, chiefly Gastropoda.—Phylogeny of Gastropoda; Hamilton faunas of Michigan.

Graber, Prof. M(yron) E(arl), Tiffin, O. *Mathematics, Physics.* Mt. Eaton, O, July 25, 80. A.B, Heidelberg (Ohio), 01, A.M, 04. Instr. math, *Heidelberg (Ohio),* 03–05, *prof. physics, 05–* Math. Soc; Ohio Ass. Teachers Math. and Sci. Mathematical theory of projectiles; cyclidal surfaces.—Non-analytical functions in mathematics and physics.

Graham, James C(handler), Andover, Mass. *Geology, Chemistry.* Brooklyn, N. Y, June 14, 68. B.S, Wesleyan, 90, grad. student, 90–93. *Instr. chem, Phillips Acad, 93–* Asst, U. S. Geol. Surv, 90–91. M.A.A. Sand transportation; artificial geysers.

Graham, Prof. John Y(oung), University, Ala. *Biology.* Montgomery, N. Y, Dec. 31, 69. B.S, Princeton, 92, M.S, 94; Ph.D, Munich, 97. *Prof. biol, Alabama, 97–* Boston Soc. Nat. Hist. Trichina spiralis.—Trematodes parasitic in the oyster.

Graham, Dr. R(obert) O(rlando), 1108 N. East St, Bloomington, Ills. *Chemistry.* Petersburg, Pa, Jan. 10, 53. A.B, Amherst, 77, A.M, 81; Ph.D, Hopkins, 88. *Prof. chem,* Westminster (Pa.), 78–87; *Ills. Wesleyan, 88–* Chemist, Funk Corn and Seed Co; chairman, City Water Board and Council Light Committee. Chem. Soc. Diazo compounds.—Experiments to increase protein and fats in corn.

Graham, Dr. W(illiam) P(ratt), 504 University Place, Syracuse, N. Y. *Physics, Electrical engineering.* Oswego, N. Y, Nov. 24, 71. B.S, Syracuse, 93; Ph.D, Berlin, 97; Darmstadt Polytech, 97–98. Assoc. prof. *elec. eng, Syracuse,* 98–01, *prof, 01–* Assoc. Elec. Eng; Math. Gesell. Distribution of potential in vacuum tubes.—Nature of the electric spark.

Grant, Prof. U(lysses) S(herman), Evanston, Ills. **Geology.* Moline, Ills, Feb. 14, 67. B.S, Minnesota, 88; Ph.D, Hopkins, 93. Asst. state geologist, Minn, 93–99; instr. geol, Minnesota, 97–98; *prof. geol. and curator, Mus, Northwestern, 99–* Assoc. ed, 'Am. Geologist,' 97–; geologist, Wis. Geol. and Nat. Hist. Surv, 99–; U. S. Geol. Surv, 04– F.A.A; Geol. Soc; Min. Eng. General petrographic and economic geology especially of the iron and copper districts of the Lake Superior region; geology and ore deposits of the lead and zinc district of southwest Wisconsin.—Copper deposits of Prince William Sound, Alaska.

Granville, Dr. W(illiam) A(nthony), 118 Howe St, New Haven, Conn. *Mathematics.* White Rock, Minn, Dec. 16, 63. Ph.B, Yale, 93, Ph.D, 97. *Instr. math, Sheffield Sci. Sch, Yale, 93–* M.A.A; Math. Soc. Group theory; designed polar coordinate plotting paper; differential and integral calculus.

Gratacap, L(ouis) P(ope), West New Brighton, Staten Island, N. Y. *Conchology, Mineralogy.* Brooklyn, N. Y, Nov. 1, 51. A.B, A.M, Col. City of N. Y, 69; Ph.B, Columbia, 76. Chemist, Metropolitan Gas Co, N. Y, 78–81; asst. curator, *Am. Mus. Nat. Hist,* 81–00, *curator, 00–* F.A.A; Soc. Nat; N. Y. Miner. Club; Staten Isl. Nat. Sci. Ass. General mineralogy and conchology; museum data.—Mineral distribution; limits of endurance of life in saline solutions.

Grave, Dr. Caswell, Woman's College, Baltimore, Md. **Zoology.* Monrovia, Ind, Jan. 24, 70. B.S, Earlham, 95; Ph.D, Hopkins, 99, A. T. Bruce fellow, 99–01. Temporary asst, U. S. Fish Commission, 99–00; asst. zool, Hopkins, 01–02, assoc, 02–06; *director, Beaufort Lab, Bur. of Fisheries, 02–; prof. biol, Woman's Col. of Baltimore, 06–* Instr. invert. zool, Woods Hole, 01. Soc. Zool; Fisheries Soc. Embryology of echinoderms; experimental oyster culture.—Metamorphosis and organogeny of Mellita pentapora; Ophiura brevispina; taxonomy of Beaufort echinoderms.

Graves, Prof. Henry S(olon), 68 Trumbull St, New Haven, Conn. *Forestry.* Marietta, O, May 3, 71. A.B, Yale, 92; Harvard, 94–95; Munich, 95–96. Asst. chief, Div. Forestry, U. S. Dept. Agr, 98–00; *prof. forestry and director, Yale Forest Sch, 00–* Hon. A.M, Yale, 01. Soc. Foresters; Conn. Acad; Wash. Acad. White pine.

Gray, Prof. Thomas, 802 Chestnut St, Terre Haute, Ind. *Physics, Dynamics.* Lochgelly, Scotland, Feb. 4, 50. B.S, Glasgow, 78. Instr. exp. physics and elec. eng, Eng. Col, Tokyo, Japan, 78–81; asst. to Lord Kelvin, 81–88; prof. dynamic eng, *Rose,* 88–96, *v. pres. and director, Dept. of Mech. and Elec. Eng, 96–* F.A.A. (sec'y, D, 90, v. pres, 91); Physical Soc; various state and eng. societies; Wash. Acad; British Ass; fel. Edinburgh Royal Soc. Magnetic properties of iron and steel; electric resistance and capacity of dielectrics; effect of strain on electrical resistance of metals; dielectric strengths; electrochemical equivalents of copper and silver; electric units; earthquakes; elasticity of metals; engineering.—Poisson's ratio; capacity of dielectrics; friction of sliding and rolling; viscosity of lubricants.

Greata, Louis A(ugustin), Los Angeles, Cal. *Botany.* London, England, March 13, 57. Private schools. Flora of Los Angeles and vicinity.—Tribal character in the style-branches of the Compositae; flora of Colorado Desert.

Greely, Gen. A(dolphus) W(ashington), U. S. A, 1914 G St, Washington, D. C. *Meteorology, Electricity.* Newburyport, Mass, March 27, 44. Pub. high schools. All grades, Signal Corps of the Army, U. S. Weather Service, 70–91; *brig. gen. and chief signal officer, U. S. A, 87–* Polar exploration. Gold medals, Royal Geog. Soc. and French Geog. Soc. Philos. Soc; mem. Inst. Colonial Int. American weather; meteorology and electricity as applied to war.

Green, Prof. Arthur L(awrence), Lafayette, Ind. *Chemistry.* Newark, O, Sept. 18, 57. Ph.C, Michigan, 82; Ph.D, Franklin; M.D, Ind. Med. Col. Asst. chem, Michigan, 82–86; *prof. chem. and dean, Sch. Pharmacy, Purdue, 88–* F.A.A; Ind. Pharmaceut. Ass. (pres, 87).

Green, Bernard R(ichardson), 1738 N St, Washington, D. C. *Mechanics, Engineering.* Malden, Mass, Dec. 28, 43. B.S, Harvard, 63. Asst. engineer, sea coast fortifications and other works, 63–76; in charge construction of many govt. buildings, 77–; *supt, Cong. Library Building and Grounds.* F.A.A; Civil Eng. (director, 94–96); Wash. Acad; Wash. Philos. Soc. Applied mechanics.

Green, Dr. Charles M(ontraville), 78 Marlborough St, Boston, Mass. *Obstetrics, Gynecology.* Medford, Mass, Dec. 18, 50. A.B, Harvard, 74, M.D, 77; Vienna, 79. Asst. obstet, *Harvard Med. Sch,* 83–86, instr, 86–94, asst. prof, 94–04, *assoc. prof. obstet. and clin. gynec, 04–* Sec'y, Faculty of Med, Harvard, 97–; visiting physician diseases of women, Boston City Hosp; asst. visiting physician, Boston Lying-in Hosp. Fel. Gynec. Soc; Mass. Med. Soc. (v. pres, 99); Boston Obstet. Soc. (pres, 93–95); Boston Soc. Med. Improv. (pres, 04, 05). Obstetrics; gynecology.

Green, Prof. J(erome) J(oseph), Notre Dame, Ind. *Physics, Electrical engineering.* Somerset, O, Dec. 26, 66. M.E, Ohio State, 93. Expert testing electrical apparatus, Bureau of Awards, Chicago Expos, 93; chief instr, Nat. Sch. Elec, Chicago, 95; *prof. physics and elec. eng, Notre Dame, 95–* Int. Elec. Cong, St. Louis, 04. M.A.A; Nat. Elec. Light Ass; Central Ass. Sci. and Math. Teachers. Wireless telegraphy; the alternating arc.

Green, Prof. R(ufus) L(ot), Stanford University, Cal. *Mathematics.* Rush Co, Ind, March 3, 62. Indiana, 79–81; Cornell, 81–83; B.S, Indiana, 85; Hopkins, 87–88; A.M, Indiana, 89. Instr. math, Indiana, 85–86, assoc. prof, 86–88, prof. pure math, 88–93; assoc. prof. *math, Stanford,* 93–94, *prof, 94–* Math. Soc.

Green, Prof. Samuel B(owdlear), 2095 Commonwealth Ave, St. Paul, Minn. *Horticulture, Forestry.* Chelsea, Mass, Sept. 15, 59. B.S, Mass. Agr. Col, 79; Germany, 00. *Prof.* hort, *Minnesota,* 88–98, *hort. and forestry, 98–* Assoc. ed, 'Farm and Fireside,' 88– Soc. Hort. Sci; Minn. Hort. Soc. (sec'y, 90–). Horticulture; vegetable gardening; forestry in Minnesota.

Greene, Prof. Arthur M(aurice), Jr, University of Missouri, Columbia, Mo. *Mechanical engineering.* Philadelphia, Pa, Feb. 4, 72. B.S, Pennsylvania, 93, M.E, 94. Instr, Drexel Inst, 94–95; *mech. eng,* Pennsylvania, 95–02; *prof, Missouri, 02–* Asst. engineer, Phila. Traction Co, 93, 97, 98, 04; mech. engineer and chairman of Group Jury, Nat. Export Expos, 99. F.A.A; Mech. Eng; Eng. Educ; Franklin Inst.

Greene, Dr. Cha(rle)s Lyman, 150 Lowry Arcade, St. Paul, Minn. *Medicine.* Gray, Me, Sept. 21, 62. M.D, Minnesota, 90; externe, Great Ormond St. Hosp. for Children, London, 90–91; Hopkins, 93; Harvard, 94, 95, 97; London, 02. House physician, City and County Hosp, St. Paul, 89–90; instr. applied anat, *Minnesota,* 91–93, physical diagnosis and clin. med, 93–97, clin. prof. med. and physical diagnosis, 97–03, *prof. theory and practise of med, 03–* Med. director, Minn. Mutual Life Ins. Co, 82–04; Minn. State Board of Health; attending physician, St. Luke's Hosp, City Hosp. and St. Paul's Free Dispensary; trustee, St. Luke's Hosp. M.A.A; Am. Physicians; Nat. Ass. for Study and Prevention of Tuberculosis; Minn. Acad. Med. New method for controlling persistent vomiting; the Widal reaction; the diazo reaction; new fluoroscopic and percussion signs in unilateral pleuritic effusion; hydrotherapy in the treatment of heart disease; aneurism of the aortic arch in its earlier stages.

Greene, Prof. Charles W(ilson), State University, Columbia, Mo. **Physiology.* Crawford Co, Ind, Aug. 12, 66. A.B, Stanford, 92, A.M, 93; Ph.D, Hopkins, 98. Instr. physiol, Stanford, 93–98, asst. prof, 98–00; *prof. physiol. and pharmacol, Missouri, 00–* Instr. zool, Woods Hole, 96–97, physiol, 00; special investigation physiol. of salmon, U. S. Fish Commission, 01, 02, 04. F.A.A; Physiol. Soc. Structure and functions of phosphorescent organs in fishes; influence of inorganic salts on cardiac tissues; the circulatory system of hag-fishes.—Physiological changes in breeding salmon; limits of change in osmotic pressure of blood and other animal fluids.

Greene, Dr. Edw(ard) L(ee), National Museum, Washington, D. C. **Botany.* Hopkinton, R. I, Aug. 20, 43. Ph.B, Albion, 66. Instr. bot. and German, Albion Acad, Wis, 68; bot, Jarvis Hall, Golden City, Colo, 71–72; lecturer, California, 82–83, instr, 85–87, asst. prof, 87–88, assoc. prof, 88–90, prof, 90–95; Catholic, 95–04; *assoc. bot, U. S. Nat. Mus, 04–* LL.D, Notre Dame, 95. Bot. Soc; Nat. Geog. Soc; Pacific Geog. Soc; Cal. Acad; Torrey Bot. Club; Wash. Acad; Wash. Biol. Soc; Phila. Acad; Brooklyn Inst. North American plant geography; systematic botany; history of North American botany.

Greenman, Dr. Jesse More, Field Columbian Museum, Chicago, Ills. **Botany.* North East, Pa, Dec. 27, 67. B.S, Pennsylvania, 93; M.S, Harvard, 99, John Thornton Kirkland fellow, 99–01; Ph.D, Berlin, 01. Asst. bot, Pennsylvania, 90–93; asst, Gray Herbarium, Harvard, 94–98, instr. bot. and asst, Gray Herbarium, 02–05; *asst. curator, Dept. Bot, Field Columbian Mus, 05–* F.A.A; Soc. Plant Morph. and Physiol; New Eng. Bot. Club; Boston Soc. Nat. Hist. The flora of Mexico and western United States.—North American species of the genus Senecio; flora of Mexico.

Greenman, Dr. M(ilton) J(ay), 3618 Woodland Ave, Philadelphia, Pa. *Anatomy.* North East, Pa, June 14, 66. Ph.B, Pennsylvania, 89, M.D, 92. With Dept. Scientific Inquiry, U. S. Fish Commission, 88–; instr. biol, Pennsylvania, 89–91; asst. director, *Wistar Inst, 92–05, director, 05–* Ass. Anat; Philos. Soc; Phila. Acad. Placentation of mammals; museum administration and technique.—New methods of exhibiting anatomical specimens.

Greenwood, Prof. G(eorge) W(illiam), Lebanon, Ills. *Mathematics.* Pittsburg, Pa, March 10, 75. A.B, Oxford, 00, A.M, 04. *Prof. math. and astron, McKendree, 00–* M.A.A; Math. Soc; Oxford Math. Soc; Central Ass. Science and Math. Teachers.

Gregg, Dr. W(illia)m H(enry), Port Chester, N. Y. *Zoology.* Elmira, N. Y, Aug. 3, 30. M.D, Col. Physicians and Surg, N. Y, 55. Examiner of drugs and chemicals, Port of N. Y, 83, asst. appraiser, 84. M.A.A. Zoology of central New York.—Chemistry of coal-tar and its derivatives.

Gregory, Dr. Emily Ray, Wells College, Aurora, N. Y. *Zoology.* Philadelphia, Pa, Nov. 1, 63. A.B, Wellesley, 85; fellow, Pennsylvania, 92–93; Woods Hole, 93–95; A.M, Pennsylvania, 96; Chicago, 95–97, fellow, 97–99, Ph.D, 99; scholar, Am. Woman's Table, Naples Zool. Sta, 99–00. Teacher, Mrs. Mitchell's Sch. for Girls, Phila, 85–86; private teacher, 86–87; teacher, Misses Case and Hallowell's Sch, 87–88; proof-reader, Am. Acad. Polit. and Social Sci, 90–91; teacher, Home Sch. for Girls, Baltimore, 93–94; Milwaukee Col, 94–95; asst. zool, Chicago, 97–99; *prof. biol, Wells, 01–* F.A.A; Wash. Biol. Soc. Origin of the pronephric duct in selachians; development of the excretory system in turtles.—Echinarachnius parma.

Gregory, Prof. Herbert E(rnest), Yale University, New Haven, Conn. *Physiography.* Middleville, Mich, Oct. 15, 69. A.B, Yale, 96, Ph.D, 99. Instr. physical geog, *Yale,* 99–01, asst. prof. physiog, 01–04, *Silliman prof. geol, 04–* Asst. geologist, U. S. Geol. Surv, 00–; assoc. ed, 'Am. Jour. Sci.' F.A.A; Geol. Soc; Geog. Ass; Nat. Geog. Soc. Glacial geology.—Geology of Connecticut.

Griffin, Prof. Edward H(errick), 1027 N. Calvert St, Baltimore, Md. *Philosophy.* Williamstown, Mass, Nov. 18, 43. A.B, Williams, 62; Princeton and Union Theol. Seminaries, 63–67. *Prof.* Latin, Williams, 72–81, rhetoric, 81–86, philos, 86–89; *hist. of philos. and dean of Col. Faculty, Hopkins, 89–* D.D, Amherst, 80; LL.D, Princeton, 88; Williams, 05. Philos. Ass; Psychol. Ass.

Griffin, Prof. Jno. (John) J(oseph), Catholic University of America, Washington, D. C. *Chemistry.* Corning, N. Y, June 24, 59. A.B, Ottawa, 81, A.M, 83; Ph.D, Hopkins, 95. Instr. physics, Ottawa, 83–86; *chem,* St. Thomas Aquinas Col, Cambridgeport, Mass, 86–87; *prof,* Ottawa, 87–90; *Catholic, 95–, dean, Faculty of Philos, 03–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell; Electrochem. Gesell. Decomposition of diazo compounds; metatoluene sulphonic acid.—Synthesis of organic compounds, starting with acetylene.

Griffin, Prof. Lawrence E(dmonds), 220 E. Vest St, Marshall, Mo. *Zoology.* Dalton, N. Y, Sept. 10, 74. A.B, Ph.B, Hamline, 95; Minnesota, 95–98; Ph.D, Hopkins, 00. Instr. *biol,* Col. for Women, Western Reserve, 00–02; *prof, Missouri Valley, 02–* Research asst, Carnegie Inst, 04–05. Soc. Zool. Anatomy of Nautilus pompilius.—Histology of Nautilus pompilius.

Griffin, Martin L(uther), Mechanicsville, N. Y. *Chemistry.* Northampton, Mass, May 21, 59. A.B, Amherst, 83, A.M, 86. Professional chemist, Holyoke, Mass, 83–92; *chem. expert, W. Va. Pulp and Paper Co, 92–* Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Min. Eng; Franklin Inst. Production of pulp and paper; water and sewage treatment.—Trades waste; sewage.

Griffith, Prof. H(erbert) E(ugene), Galesburg, Ills. *Chemistry.* Titusville, Pa, Jan. 1, 66. Ills. Wesleyan, 83–84; B.S, Northwestern, 92; Hopkins, 96–97. Instr. physics and chem, High Sch, Moline, Ills, 92–94; Oak Park, Ills, 94–96; *prof. chem, Knox, 97–* M.A.A; Chem. Soc.

Griffiths, Dr. David, Takoma Park, D. C. **Botany.* Abaristwyth, Wales, Aug. 16, 67. B.S, S. Dak. Agr. Col, 92, M.S, 93; Ph.D, Columbia, 00. Teacher sciences, High Sch, Aberdeen, S. Dak, 93–98; prof. bot, Arizona, and botanist, Ariz. Exp. Sta, 00–01; *asst, Div. Agrost, U. S. Dept. Agr, 01–* F.A.A; assoc. Bot. Soc; Mycol. Soc; Nat. Geog. Soc; Wash. Bot. Soc; Wash. Acad; Torrey Bot. Club. North American Lordariaceae.—Certain groups of grasses; forage plants.

Grimsley, Prof. G(eorge) P(erry), Morgantown, W. Va. *Geology, Mineralogy.* Granville, O, Feb. 21, 68. A.B, Ohio State, 90, A.M, 91; Ph.D, Hopkins, 94; Stanford, 01. Asst. geol, Ohio State, 90–91; asst. geologist, Ohio Geol. Surv, 90–93; Kas. Geol. Surv, 95–03; prof. geol. and nat. hist, Washburn, 95–04; *asst. state geologist, W. Va. Geol. Surv, 04–* Geologist, Kas. State Board of Agr, 96–; chief, Miner. Div, Kas. Mid-Winter Expos, 02; Kas. Mineral Exhibit, La. Purchase Expos, 04. F.A.A; Geol. Soc; Nat. Geog. Soc; Kas. Acad; Wash. Geol. Soc. Gypsum; cements; clays; gas and oil; rocks.—Gypsum deposits of Michigan; clay in-

dustry of Kansas; clay industry of West Virginia.

Grindley, Dr. H(arry) S(ands), 918 W. Green St, Urbana, Ills. *Chemistry.* Champaign, Ills, April 13, 64. B.S, Illinois, 88; Morgan fellow, Harvard, 93–94, Sc.D, 94. Instr. *chem,* Illinois, 88–92; asst, Harvard, 92–93; asst. prof, *Illinois,* 94–99, assoc. prof, 99–04, *prof. and director, Chem. Lab, 04–* F.A.A; Chem. Soc. Chemistry and nutritive value of meats; action of alcoholates and mercaptids upon quinones.—Chemistry and nutritive value of meats and meat products; action of mercaptids upon quinones; the proteids, phosphorus compounds and mineral constituents of flesh.

Grinnell, Dr. Geo(rge) Bird, 346 Broadway, New York, N. Y. *Ethnology.* Brooklyn, N. Y, Sept. 20, 49. A.B, Yale, 70, Ph.D, 80. Asst. osteol, Peabody Mus, New Haven, Conn, 74–80; *pres. and director of various business corporations, 80–* Co-editor, 'Forest and Stream,' 80– F.A.A; fel. Ethnol. Soc; Folk-lore Soc; Wash. Anthrop. and Biol. Societies; N. Y. Acad. History and habits of the plains Indians.—Cheyenne Indians.

Grinnell, Prof. Joseph, 572 N. Marengo Ave, Pasadena, Cal. *Ornithology, Biology.* Okla, Feb. 27, 77. A.B, Throop, 97; A.M, Stanford, 01. Instr. ornith, Hopkins Lab, Stanford, 01–02; *biol,* High Sch, Palo Alto, 01–03; *prof, Throop, 05–* Ed, 'The Condor.' Fel. Ornith. Union; Cal. Acad; Cooper Ornith. Club (pres, 00–01). Distribution of birds; variation in birds.—Distribution of birds in California.

Griswold, W(illiam) T(udor), U. S. Geological Survey, Washington, D. C. *Engineering.* Brooklyn, N. Y, Oct. 15, 59. M.E, Columbia, 81. Senola and Durango R. R, Mex, 81–83; *with U. S. Geol. Surv, 83–* Min. Eng. Topography; geology of petroleum.

Groat, Prof. B(enjamin) F(eland), University of Minnesota, Minneapolis, Minn. *Mathematics, Physics.* Hannibal, Mo, Oct. 18, 67. B.S. in eng, Minnesota, 01. Instr. physics, *Minnesota,* 94–95, math. and mech, *Sch. of Mines,* 98–01, asst. prof. in charge of Dept, 01–05, *prof. mech. and math, 05–* F.A.A; Math. Soc; Eng. Educ. Mathematics; mechanics; hydraulics; engineering.

Grosvenor, Gilbert H(ovey), 1328 18th St, Washington, D. C. *Geography.* Constantinople, Turkey, Oct. 28, 75. A.B, Amherst, 97, A.M, 01. Instr. math. and modern languages, Englewood Acad, N. J, 97–99; asst. ed, '*Nat. Geog. Magazine,*' 99–00, managing and assoc. ed, 00–03, *ed, 03–* M.A.A; Nat. Geog. Soc; Forestry Ass; Social Sci. Ass; Am. Hist. Ass. Commercial, political, physical and historical geography.

Grout, Dr. A(bel) J(oel), 360 Lenox Road, Brooklyn, N. Y. *Botany.* Newfane, Vt, March 24, 67. Ph.B, Vermont, 90; Ph.D, Columbia, 97. *Instr. science,* State Nor. Sch, Johnson, Vt, 93–95; Plymouth, N. H, 97–99; *Boys' High Sch, Brooklyn, N. Y, 99–* Curator, Bot. Dept, Mus. of Brooklyn Inst, 99–03; ed, 'Bryologist.' F.A.A. Taxonomy of mosses; moss peristomes; adaptations of moss peristomes for spore distribution.

Grover, Prof. F(rederick) O(rville), 240 Elm St, Oberlin, O. *Botany.* Bangor, Me, July 31, 68. A.B, Dartmouth, 90, A.M, 93; A.B, Harvard, 95, Morgan fellow, 95–96, A.M, 96. Instr. math, St. James Mil. Acad, Macon, Mo, 90–92; Greek and math, Western Mil. Acad, Upper Alton, Ills, 92–94; asst. *bot,* Harvard, 95–96, Radcliffe, 95–97; assoc. prof, *Oberlin,* 98–00, *prof, 00–* M.A.A; Soc. Nat; New Eng. Bot. Club; Ohio Acad.

Gruener, Prof. Hippolyte, 43 Knox St, Cleveland, O. *Chemistry.* New Haven, Conn, Feb. 23, 69. A.B, Yale, 91, Ph.D, 93; Munich, 94–95. Instr. science, Hill Sch, Pottstown, Pa, 93–94; instr. *chem,* Adelbert Col, *Western Reserve,* 95–03, *assoc. prof, Col. for Women, 98–, asst. prof, Adelbert Col, 03–* F.A.A; Chem. Soc; Cleveland Chem. Soc; Chem. Gesell. Analytical methods, especially iodometric.

Grunsky, C(arl) E(wald), San Francisco, Cal. *Civil engineering.* San Joaquin Co, Cal, April 4, 55. Polytech, Stuttgart, 77. Asst. state engineer, Cal, 78–87; mem. Exam. Commission Rivers and Harbors, 89–90; Sewerage Board, San Francisco, 92–93; consulting engineer to commissioner of public works, Cal, 94; city engineer, San Francisco, 00–04; Isthmian Canal Commission, 04–05; *consulting engineer, U. S. Reclamation Service, 05–* Civil Eng; Pacific Coast Tech. Soc. (pres, 94–95); Cal. Acad. (Board of Trustees); San Francisco Mech. Inst. Irrigation; drainage; sewerage; water supply and power.—Municipal water supply for San Francisco.

Gudeman, Dr. Edward, 4856 Forestville Ave, Chicago, Ills. *Chemistry.* New York, N. Y, Jan. 25, 65. Ph.B, Columbia, 87; Berlin, 87–88; Göttingen, 88–89; fellow, Columbia, 89–90, Ph.D, 90. In charge, Dept. Chem. and Dyeing, Pa. Mus. and Sch. of Indust. Art, 90–91; professional chemist, 91–00; *consulting chemist and chemical engineer, 00–* Chem. Soc; Soc. Chem. Indust. Chemical technology; food products.—Coloring and action of preservatives in food products; composition and analyses of vinegars, sugars, starch and alcoholic beverages.

Guiteras, Dr. Juan, Hospital Las Animas, Havana, Cuba. *Tropical diseases.* Matanzas, Cuba, Jan. 4, 52. A.B, Matanzas Col, La Empresa, 67; M.D, Ph.D, Pennsylvania, 73. *Prof. gen. path. and tropical med, Havana, 00–, dean, Med. Faculty, 05–; director, Las Animas Hosp, 03–* Pres, Board for Infectious Diseases, 02–; mem. Nat. Board of Health, Cuba, 03–; pres, Second Med. Cong. of Cuba, 05; v. pres, Conf. of N. A. Boards of Health; mem. Exec. Committee, Sanit. Cong. of Am. Republics, 02. Am. Physicians; Pub. Health Ass. (v. pres.); Phila. Col. Physicians; Havana Acad. de Cienc. Med. Fis. y Nat; Havana Soc. de Estudios Clinicos. Yel-

low fever; filaria; uncinariasis.—Yellow fever; secondary infection by Shiga's bacillus in yellow fever; duration of life of the stegomyia fasciata; frequency of neuritis in the tropics.

Gulick, Rev. John T(homas), 904 Filbert St, Oakland, Cal. *Biology.* Waimea, Kanai, H. I, March 13, 32. A.B, Williams, 59; Union Theol. Sem, 59–61. Missionary of Am. Board, in North China, 64–75; in Kobe and Osaka, Japan, 75–99. Hon. A.M, Williams; Ph.D, Adelbert, 89; Sc.D, Oberlin, 05. Soc. Zool; Econ. Ass. Achatinella; variation of species as related to geographical distribution; divergent evolution through cumulative segregation and through intensive segregation; cross-infertility; utility of specific characters; evolution, racial and habitudinal.—Social problems.

Gulliver, Dr. F(rederic) P(utnam), Norwich, Conn. (June to Oct.); Southboro, Mass. (Oct. to June). *Geology.* Norwich, Aug. 30, 65. Mass. Inst. Tech, 83–86; A.B, Harvard, 93, A.M, 94, Ph.D, 96; Berlin, 96; Vienna, 97. Asst. topographer and later topographer, U. S. Geol. Surv, 86–91, asst. geologist, 94; *science master, St. Mark's Sch, 97–* Assoc. ed, Geol. Dept, 'Centralblatt,' 00– F.A.A. (sec'y, E, 02); Geol. Soc; Geog. Ass; Nat. Geog. Soc; Berlin Gesell. für Erdkunde. Development of shore-lines; glacial forms; tidal scour and deposits; tepee buttes.—Recent changes in shore-lines; glacial deposits; laboratory exercises in physiography.

Gulliver, Pres. Julia H(enrietta), Rockford College, Rockford, Ills. *Philosophy.* Norwich, Conn, July 30, 56. A.B, Smith, 79, Ph.D, 88; Leipzig, 92–93. *Head, Dept. Philos. and Biblical Lit, Rockford, 90–, pres, 02–* Philos. Ass; Religious Educ. Ass; Psychol. Ass. (N. Central Sect.). Psychology of dreams; the subconscious self; pedagogy.

Gummere, Prof. Henry V(olkmar), 229 S. 44th St, Philadelphia, Pa. *Mathematics.* Philadelphia, March 20, 70. B.S, Haverford, 88, A.M, 89; A.M, Harvard, 90, grad. student, 90–91, 92–93, 98–99. Instr. math, Swarthmore, 93–98; *prof.* math. and physics, Ursinus, 99–04; *math, Drexel Inst, 04–* M.A.A; Math. Soc.

Gundersen, Dr. C(arl), Agricultural College, Mich. *Mathematics.* Krageroe, Norway, Jan. 10, 64. A B, Stanford, 97; A.M, Columbia, 99, fellow, 99–00, hon. fellow, 00–01, Ph.D, 02. Instr. *math,* Rugley Mil. Acad, N. Y, 02; prof, La Grange, 02–04; *instr, Mich. Agr. Col, 04–* Math. Soc. The content or measure of assemblages of points.

Gurley, W(illia)m F(rank) E(ugene) (Reed), 6151 Lexington Ave, Chicago, Ills. *Paleontology.* Oswego, N. Y, June 5, 54. Cornell, 73–75. State geologist, Ills, 93–97; *curator paleont, Chicago, 00–* Geol. Soc; cor. mem. Imp. Austrian Royal Geol. Soc. Paleozoic paleontology.

Guthe, Prof. K(arl) E(ugen), University of Iowa, Iowa City, Ia. **Physics.* Hanover, Germany, March 5, 66. Marburg, 87–89; Strasburg, 89–91; Ph.D, Marburg, 92; Berlin, 00–01. Science teacher, Strasburg, 89–91; instr. physics, Michigan, 93–00, asst. prof, 00–03; asst. physicist, Bur. Standards, 03–04, assoc. physicist, 04–05; *prof. physics and head, Dept. Physics, Iowa, 05–* F.A.A; Physical Soc; Wash. Philos. Soc; Physik. Gesell. Polarization of cells; redetermination of electrical units; coherer; theory of the aluminium rectifier; silver voltameter.

Guyer, Prof. Michael F(rederic), University of Cincinnati, Cincinnati, O. *Zoology.* Plattsburg, Mo, Nov. 17, 74. Missouri, 90–92; B.S, Chicago, 94; A.M, Nebraska, 96; fellow, Chicago, 97–00, Ph.D, 00. Asst. zool, Nebraska, 95–96; teacher biol, High Sch, Lincoln, Nebr, 96–97; *head, Dept. Biol, Cincinnati, 00–* F.A.A; Soc. Nat; Ass. Anat; Soc. Zool; Ohio Acad; Cincinnati Soc. Nat. Hist. Cytology; helminthology.—Hybridization.

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Haanel, Dr. Eugene (Emil Felix Richard), 250 Waverly St, Ottawa, Can. *Physics, Mineralogy.* Breslau, Germany, May 24, 41. Gymnasium, Breslau, 58; A.M, Ohio (Athens), 72; Ph.D, Breslau, 73. Prof. science, Adrian, 66; nat. science, Albion, 68–72; physics and miner, director of Faraday Hall, and dean, Dept. Science, Victoria (Can.), 72–89; prof. physics, Syracuse, 89–01; *supt. of mines, Dom. of Can, 01–* Chairman, Commission to investigate electrothermic processes for the smelting of iron ores and the making of steel in operation in Europe. Physical Soc; Can. Min. Inst; Can. Royal Soc; Faraday Soc; N. of England Inst. Min. Eng. Hydriodic acid as a blow-pipe reagent; gypsum tablets in blow-pipe analysis; hydrobromic acid and tetrachlorid of tin as blow-pipe reagents; location and examination of magnetic ore deposits by magnetometric measurements.—The smelting of iron ores by the electrothermic processes.

Hadley, Pres. Arthur Twining, Yale University, New Haven, Conn. *Economics.* New Haven, April 23, 56. A.B, Yale, 76, A.M, 86. Tutor, Yale, 79–83, lecturer, 83–86; commissioner of labor statistics, Conn, 85–87; prof. polit. science, *Yale,* 86–99, *pres, 99–* Ed, 'Railroad Gazette,' 87–91. LL.D, Yale, Harvard and Wesleyan, 99; Columbia and Western Reserve, 00; Hopkins, 02. Econ. Ass; Philos. Soc; Am. Hist. Ass; Int. Inst. Statist. Effect of large investments of capital, especially railroads, on price determinations; limitations upon the effective activity of governmental bodies.—Relations between economic conditions and ethical standards.

Hagar, Stansbury, 48 Wall St, New York, N. Y. *Anthropology.* San Francisco, Cal, Dec. 9, 69. A.B, Yale, 92; LL.B, N. Y. Law Sch, 97. *Sec'y, Dept. Archeol, Brooklyn Inst, 94–* Mem. Exec. Committee, Dept. Astron, Brooklyn Inst. Int. Cong. Americanists, 02. F.A.A. (mem.

Council, 00); Anthrop. Ass; fel. Ethnol. Soc; Folk-lore Soc. (councilor and v. pres, 00). Astronomical symbolism of ancient Peru; mythology and ritual of American Indians.—Astronomical symbolism of ancient Peru.

Hagen, Rev. John G(eorge), S. J, Georgetown University, Washington, D. C. **Mathematics, Astronomy.* Bregenz, Austria, March 6, 47. Münster, 70–71; Bonn, 71–72; Ditton Hall, England, 75–80. Prof. math, *Georgetown,* 80–88, *director, Observatory, 88–* Math. Soc; Astron. and Astrophys. Soc; Astron. Gesell; Math. Verein; Soc. Sci. de Bruxelles. History and bibliography of mathematics; variable stars.—Leonardi Euleri opera collecta.

Hague, Dr. Arnold, 1724 I St, Washington, D. C. **Geology.* Boston, Mass, Dec. 3, 40. Ph.B, Yale, 63; Göttingen, 63–64; Heidelberg, 64–65; Mining Acad, Freiberg, 65–66. *Geologist,* U. S. Geol. Exploration 40th Parallel, 67–77; *U. S. Geol. Surv, 80–* Hon. Sc.D, Columbia, 01. Nat. Acad. (mem. Forestry Commission, 96, home sec'y, 01–); F.A.A; Soc. Nat; Geol. Soc; Philos. Soc; Min. Eng; Wash. Acad; London Geol. Soc. Geological structure of the Rocky Mountains; geological structure of the Great Basin.—Geology of Yellowstone National Park.

Hague, James D(uncan), 18 Wall St, New York, N. Y. *Geology, Mining.* Boston, Mass, Feb. 24, 36. Lawrence Sci. Sch, Harvard, 54; Georgia-Augusta, Göttingen, 55; Royal Sch. Mines, Freiberg, 56–58. Chemist, South Sea Exploring Cruise, 59–61; mine manager, Lake Superior copper region, 63–66; first asst. geologist, U. S. Geol. Exploration 40th Parallel, 67–70; consulting mining engineer, Cal, 71–78; *consulting engineer and mine expert, N. Y. City, 79–* U. S. commissioner and mem. Jury of Awards, Paris Expos, 78. Bronze medal, French Govt, 78; gift of bronze, Japanese Govt. F.A.A; Min. Eng; Am. Geog. Soc; Numis. and Archeol. Soc; Am. Acad. Geology; mining.

Haight, Stephen S(amuel), 6 Buchanan Place, University Heights, New York, N. Y. *Surveying, Civil engineering.* New York, March 6, 36. Pub. and private schools. Student and asst. of Thomas C. Cornell, Yonkers, 67–71; asst. engineer, Dept. Public Parks, *N. Y. City,* 71–91; *practising civil engineer and city surveyor, 91–* M.A.A; Civil Eng; Franklin Inst; Acad. Polit. and Social Sci. Exactness of measurement.

Haines, Prof. Thomas H(arvey), Ohio State University, Columbus, O. *Psychology.* Moorestown, N. J, Nov. 4, 71. A.B, Haverford, 96, A.M, 97; A.M, Harvard, 98, Ph.D, 01. Asst. *philos,* Harvard, 99–00; *asst. prof. and director, Psychol. Lab, Ohio State, 01–* F.A.A; Psychol. Ass. Simultaneity of mental processes; psychology of the esthetic reaction; relation of perceptive and revived mental material; the synthetic factor in tactual space-perception.

Haines, Prof. Walter S(tanley), Rush Medical College, Chicago, Ills. *Toxicology, Chemistry.* Chicago, Sept. 27, 50. Mass. Inst. Tech, 69–71; M.D, Northwestern, 73; Sorbonne and Ecole de Méd, Paris, 75–76. *Prof.* chem, Northwestern, 73–76; chem. and toxicol, *Rush Med. Col,* 76–85, chem, pharmacy and toxicol, 85–05, *chem, mat. medica and toxicol, 05–, professorial lecturer toxicol, Chicago, 01–* Toxicologist, Presbyterian Hosp, Chicago; mem. Committee of Revision, U. S. Pharmacopœia, 00. Hon. A.M, Monmouth, 81. Chem. Soc; Am. Med. Ass; Chicago Med. Soc; London Chem. Soc. Toxicology and the urine.—Presence of casts in normal urine; carbolic acid poisoning.

Hale, Dr. Albert C(able), 352 A Hancock St, Brooklyn, N. Y. *Chemistry, Physics.* Adams, N. Y, Sept. 2, 45. A.B, Rochester, 69, A.M, 72; Ph.D, Heidelberg, 80; E.M, Rochester, 81. V. principal and teacher science, High Sch, Jersey City, 73–77; pres, Colo. State Sch. of Mines, 80–83; *head teacher physical science, Boys' High Sch, Brooklyn, 83–* Col. entrance examiner in chem, 02– F.A.A. (mem. Council, 01–02); Chem. Soc. (director, 87–02, councilor, 93–02, v. pres, 89, sec'y, 89–02); Min. Eng; Colo. Sci. Soc; Brooklyn Inst. (pres, Dept. Chem, 86); New Eng. Ass. Chem. Teachers (v. pres, 01–02); N. Y. Chem. Teachers Club (pres, 02); N. Y. Physics Club (v. pres, 89–90, pres, 90–91); Chem. Gesell.

Hale, Dr. Frank E(ugene), 522 Flatbush Ave, Brooklyn, N. Y. *Chemistry.* Brooklyn, Oct. 19, 75. A.B, Yale, 00, Silliman fellow, 00–02, Ph.D, 02. Asst. chem, Yale, 00–02; anal. chem, Columbia, 02–03; *chemist, Dept. Water, Gas and Elec, N. Y. City, 03–* Soc. Chem. Indust; N. Y. Chemists Club. Use of tartar emetic as a standard; starch as an indicator in iodometric analysis; hydrolysis of starch; structure of the starch molecule and of the starch iodids.—Methods of water analysis.

Hale, Dr. George E(llery), Solar Observatory Office, Pasadena, Cal. **Astrophysics.* Chicago, Ills, June 29, 68. B.S, Mass. Inst. Tech, 90; Berlin, 93–94. Director, Kenwood Observatory, 90–96; assoc. prof. astrophysics, Chicago, 92–97, prof, 97–05, *director,* Yerkes Observatory, 95–05; *Solar Observatory of the Carnegie Inst, 04–* Co-editor, 'Astron. and Astrophys,' 92–95; ed, 'Astrophys. Jour,' 95– Janssen medal, Paris Acad, 94; Rumford medal, Am. Acad, 02; Draper medal, Nat. Acad, 03; gold medal, Royal Astron. Soc, 04; hon. Sc.D, Western Univ. of Pa, 97; LL.D, Beloit, 04; Sc.D, Yale, 05. Nat. Acad; F.A.A; Astron. and Astrophys. Soc. (v. pres, 99–); Physical Soc; assoc. fel. Am. Acad; Philos. Soc; cor. mem. N. Y. Acad; fel. and for. assoc. Royal Astron. Soc; Astron. Gesell; Soc. de Physique; for. mem. Soc. Ital. di Spettroscop; Int. Union for Cooperation in Solar Research; Solar and Radiation Commissions of Int. Meteor. Committee. Spectroscopy; solar and stellar physics.

Hale, Dr. W(illia)m H(enry), 40 First Place, Brooklyn, N.Y. *Economics.* Albany, N. Y, Aug. 20, 40. A.B, Yale, 60; LL.B, Albany Law

Sch, 61; A.M, Ph.D, Yale, 63. *Attorney- and counselor-at-law, 61–* Formerly Am. correspondent, 'Nature.' F.A.A. Adaptation of proceedings of scientific societies to popular comprehension and appreciation; economics.

Hale, Dr. William J(ay), Chemical Laboratory, University of Michigan, Ann Arbor, Mich. *Chemistry.* Ada, O, Jan. 5, 76. A.B, A.M, Miami, 97; A.B, Harvard, 98, A.M, 99, Ph.D, 02, fellow (Berlin and Göttingen), 02–03. *Instr. chem, Michigan, 03–* M.A.A; Chem. Soc; Chem. Gesell. Organic chemistry; furfurol and similar compounds.—Condensations among aldehydes and ketones.

Hall, Dr. Arthur G(raham), Miami University, Oxford, O. *Mathematics.* Memphis, Mich, Dec. 9, 65. B.S, Michigan, 87; Ph.D, Leipzig, 02. Teacher physics and chem, later teacher math. and principal, High Sch, LaPorte, Ind, 87–91; instr. math, Michigan, 91–93; head teacher physics, High Sch, Grand Rapids, Mich, 93–94; instr. *math,* Michigan, 94–03; asst. prof, Illinois, 03–05; *prof, Miami, 05–* Math. Soc. Theory of transformation groups.

Hall, Prof. Asaph, Norfolk, Conn. **Astronomy.* Goshen, Conn, Oct. 15, 29. McGrawville, 54; Michigan, 56. Schoolmaster, Shalerville, O, 56–57; student and asst, Harvard Col. Observatory, 57–62; aide, Naval Observatory, 62–63, *prof, U. S. N, 63–;* astron, Harvard, 95–01. Hon. Ph.D, Hamilton, 78; LL.D, Yale, 79; Harvard, 86; Chevalier Légion d'honneur. Nat. Acad; F.A.A. (v. pres, 80, pres, 02); assoc. fel. Am. Acad; Philos. Soc; hon. mem. N. Y. Acad; for. assoc. Royal Astron. Soc; cor. mem. Inst. de France; St. Petersburg Imp. Acad. Astronomy.—Satellites.

Hall, Dr. A(saph), Jr, Naval Observatory, Washington, D. C. *Astronomy.* Cambridge, Mass, Oct. 6, 59. Columbian, 76–78; A.B, Harvard, 82; Ph.D, Yale, 89. Asst, Naval Observatory, 82–85; Yale Observatory, 85–89; asst. astronomer, Naval Observatory, 82–92; prof. astron, Michigan, 92–05. F.A.A. (sec'y, A, 95, sec'y of Council, 96, gen. sec'y, 97, v. pres, 00); Astron. and Astrophys. Soc; Math. Soc; Wash. Acad; Astron. Gesell. Mass of Saturn; orbit of Neptune's satellite; orbits of comets; determination of star places with meridian circle.—Determination of star places with meridian circle.

Hall, Charles M(artin), 136 Buffalo Ave, Niagara Falls, N. Y. *Electrochemistry, Chemistry. Metallurgy.* Thompson, O, Dec. 6, 63. A.B, Oberlin, 85, A.M, 93. *Manuf. aluminum, Pittsburg Reduction Co, 88–, v. pres, 90–* F.A.A; Electrochem. Soc. (v. pres.); Min. Eng; Philos. Soc; British Inst. Elec. Eng. Invented electrolytic process for manufacture of aluminum.

Hall, Prof. C(hristopher) W(ebber), 803 University Ave, S. E, Minneapolis, Minn. **Geology, Mineralogy.* Wardsboro, Vt, Feb. 28, 45. A.B, Middlebury, 71, A.M, 73; Leipzig, 75–78. Principal, Glen Falls Acad, N. Y, 71–72; High Sch, Mankato, Minn, 72–73; supt. city schools, Owatonna, Minn, 73–75; instr. geol, *Minnesota,* 78–79, asst. prof, 79–80, *prof.* geol, miner. and biol, 80–90, *geol. and miner, 90–,* dean, Col. Eng, Metal. and Mech. Arts, 92–97. Asst. geologist, Minn. Geol. Surv, 78–80; U. S. Geol. Surv, 84– F.A.A; Geol. Soc; Geog. Ass; Eng. Educ; Minn. Acad. (ed, 'Trans,' 85–, pres, 00). Geology and mineralogy.—Geology of Minnesota; water resources; mineralogy; petrography.

Hall, Prof. Edwin H(erbert), 30 Langdon St, Cambridge, Mass. **Physics.* Gorham, Me, Nov. 7, 55. A.B, Bowdoin, 75; Ph.D, Hopkins, 80. Asst. *physics,* Hopkins, 80–81; instr, *Harvard,* 81–88, asst. prof, 88–95, *prof, 95–* LL.D, Bowdoin, 05. F.A.A. (v. pres, 04); Physical Soc; Am. Acad; cor. mem. British Ass. Hall effect in various metals; changes of temperature in walls of steam-engine cylinder; thermal conductivity of nickel and iron; deflection of falling bodies.—The van der Waal's *a* in alcohol and ether; Thomson effect in soft iron; theory of thermoelectric action.

Hall, Dr. Elmer E(dgar), 1825 Arch St, Berkeley, Cal. *Physics.* McGregor, Ia, Aug. 21, 70. B.S, S. California, 93; M.S, California, 96, Whiting fellow, 01–02; Ph.D, Cornell, 02. V. principal and head, Science Dept, High Sch, Long Beach, 96–99; asst. *physics, California,* 99–01, *instr, 02–* Physical Soc. Penetration in total reflection.

Hall, Pres. G(ranville) Stanley, 94 Woodland St, Worcester, Mass. **Psychology.* Ashfield, Mass, Feb. 1, 46. A.B, Williams, 67, A.M, 70; Union Theol. Sem, 67–68; Berlin and Bonn, 69–70; Union Theol. Sem, 70–71; Berlin and Heidelberg, 71–72; Ph.D, Harvard, 78; Berlin and Leipzig, 78–80. Prof. philos, Antioch, 72–76; instr, Harvard, 76–78; lecturer, Harvard and Williams, 80–81; prof. psychol, Hopkins, 81–88; *pres. and prof. psychol, Clark, 88–* Ed, 'Am. Jour. of Psychol,' 87–; 'Pedagog. Sem,' 91–; 'Am. Jour. of Religious Psychol,' 04– LL.D, Michigan, 88; Williams, 89; Hopkins, 02. Psychol. Ass; Philos. Ass; fel. Am. Acad; Antiq. Soc; Mass. Hist. Soc. Experimental psychology; child-study; education; philosophy; ethics.—Psychology; adolescence.

Hall, H(arvey) M(onroe), University of California, Berkeley, Cal. *Botany.* Lee Co, Ills, March 29, 74. B.S, California, 01, M.S, 02. Herbarium asst, *California,* 01–02, asst. bot. and asst. botanist, *Agr. Exp. Sta,* 02–03, *instr. bot. and asst. botanist, 03–* California plants, especially Compositae; phytogeography.—Compositae of southern California; plant distribution in the Sierra Nevada Mountains.

Hall, James P(ierre), 6 Poplar St, Brooklyn, N. Y. *Astronomy, Meteorology.* Auburn, N. Y, Sept. 2, 49. High Sch. *Newspaper work,* various papers, 70–83; '*N. Y. Tribune,' 83–* M.A.A; Astron. and Astrophys. Soc; British Ass; British Astron. Ass.

Hall, Prof. Lyman B(eecher), Haverford College, Haverford, Pa. **Chemistry.* New Bedford, Mass, Jan. 16, 52. A.B, Amherst, 73; Ph.D, Göttingen, 75; fellow, Hopkins, 76–79. Asst.

chem, Hopkins, 79–80; *prof, Haverford, 80–* Special agent, Tenth Census, 80. F.A.A; Chem. Soc; Philos. Soc; Chem. Gesell. Orthonitrosalycilic acid; oxidation of sulphamids.—Litmus.

Hall, Dr. Robert W(illiam), Lehigh University, South Bethlehem, Pa. *Zoology.* Cincinnati, O, Aug. 17, 72. Ph.B, Yale, 95; A.B, Harvard, 97, A.M, 98, Ph.D, 01. Asst. zool, Harvard, 96–99; Yale, 99–01, instr, 01–02; *biol, Lehigh, 02–04, asst. prof, 04–* Instr. zool, Woods Hole, 99– F.A.A; Soc. Zool; Conn. Acad; Boston Soc. Nat. Hist. Vertebrate embryology.

Hall, Prof. Tho(ma)s C(uming), 113 W. 88th St, New York, N. Y. *Ethics.* Armagh, Ireland, Sept. 25, 58. A.B, Princeton, 79; B.D, Union Theol. Sem, 82; Berlin and Göttingen, 83. Pastor, 83–98; *prof. theol, Union Theol. Sem, 99–* Philos. Ass. English religious movements; the Synoptic Gospels.

Hall, William T(homas), Massachusetts Institute of Technology, Boston, Mass. *Chemistry.* New Bedford, Mass, Aug. 4, 74. B.S, Mass. Inst. Tech, 95. Asst. *anal. chem, Mass. Inst. Tech*, 98–00, *instr, 00–* Chem. Soc. Rate of hydrolysis of salicin with acids.

Hall, Prof. Winfield S(cott), 3136 Ivison Ave, Berwyn, Ills. **Physiology.* Batavia, Ills, Jan. 5, 61. B.S, Northwestern, 87, M.D, 88, M.S, 89; M.D, Leipzig, 94, Ph.D, 95. Instr. biol. and head of dept, Haverford, 89–93; *prof. physiol, Med. Sch, Northwestern, 95–* Lecturer physiol, Mercy Hosp. Sch. for Nurses; Wesley Hosp. Sch. for Nurses; physiol. of exercise, Inst. and Training Sch, Y. M. C. A, Chicago. Physiol. Soc; Am. Med. Ass. (chairman, Sect. Path. and Physiol, 04–05); fel. Am. Acad. Med. (pres, 04–05); Am. Med. Soc. for Study of Alcohol and other Narcotics (pres, 02–05); fel. Chicago Acad. Physiology; changes in the proportions of the human body; die Resorption des Carniferrins; Verhalten des Eisens im thierischen Organismus; regeneration of the blood; the evaluation of anthropometric data; the chest pantograph; mathematical relations of certain chest measurements.—Metabolism; nutrition; dietetics.

Halleck, Prof. Reuben Post, 1240 Third Ave, Louisville, Ky. *Psychology.* Rocky Point, L. I, Feb. 8, 59. A.B, Yale, 81, A.M, 96. Instr. psychol. and English, *Male High Sch, Louisville*, 83–96, *principal and instr. psychol, 96–* Examiner, Louisville Nor. Sch, 84–95. Soc. Sci. Educ; Nat. Educ. Ass. (pres, Dept. Secondary Educ, 04); S. Soc. Philos. and Psychol. Pedagogical applications of physiological psychology; neural bases of ethics.

Hallett, Dr. George H(ervey), 101 E. Nyack Ave, Lansdowne, Pa. *Mathematics.* Manchester, Me, Dec. 30, 70. A.B, Pennsylvania, 93, Hector Tyndale fellow, 93–94, A.M, 94, Ph.D, 96. Instr. *math, Pennsylvania*, 94–04, lecturer, Dept. Philos, 97–04, *asst. prof, 04–* Math. Soc; London Math. Soc. Theory of abstract groups.

Hallock, Dr. A(lbert) P, 440 First Ave, New York, N. Y. *Chemistry.* Peekskill, N. Y, May 16, 55. Ph.B, Columbia, 80, Ph.D, 83. Chemist, Consolidated Gas Co, 80–87; *with Carl H. Schultz Mineral Water Establishment, N. Y, 87–* F.A.A; Chem. Soc; Soc. Chem. Indust; N. Y. Chemists Club; Chem. Verein.

Hallock, Prof. William, 3609 Broadway, New York, N. Y. **Experimental physics.* Milton, N. Y, Aug. 14, 57. A.B, Columbia, 79, fellow, 79–82; Ph.D, Würzburg, 81. Asst, Physics Lab, Würzburg, 80–82; physicist, U. S. Geol. Surv, 82–91; prof. physics, Corcoran Sci. Sch, Columbian, 84–86; chem. and toxicol, Nat. Col. Pharmacy, 89–92; asst. in charge, Astrophys. Observatory, Smithsonian Inst, 91–92; adj. prof. *physics, Columbia*, 92–02, *prof, 02–* Hon. Phar.D, Nat. Col. Pharmacy, 92. F.A.A. (sec'y, B, 99, sec'y of Council, 00, gen. sec'y, 01); Physical Soc. (treas.); fel. N. Y. Acad; N. Y. State Sci. Teachers Ass. (pres, 02); Wash. Philos. Soc. Geysers of Yellowstone National Park; expansion of rocks; chemical action between solids; tone quality and voice production; underground temperatures.—Tone quality in articulate speech.

Hallowell, Prof. Susan M(aria), Wellesley College, Wellesley, Mass. *Botany.* Bangor, Me, Aug. 25, 35. A.M, Colby, 75; Summer Sch, Harvard, 75–85; bot. laboratories and museums, Europe, 87–88, 94–95. Asst, High Sch, Portland, Me, 53–54; Bangor, 54–75; prof. nat. hist, *Wellesley*, 75–78, *bot*, 78–02, *emer. prof, 02–* F.A.A; Boston Soc. Nat. Hist. Histological and physiological botany.

Halsey, Dr. J(ohn) T(aylor), 1508 Constantinople St, New Orleans, La. *Pharmacology, Physiology.* Elizabeth, N. J, Nov. 8, 70. Princeton, 87–88; M.D, Columbia, 93; St. Luke's Hosp, 93–95; Freiburg, 95–96; Strasburg, 96–98; Marburg, 98–00. Asst, Pharmacol. Lab, Marburg, 98–99; demonstrator pharmacol, Med. Faculty, McGill, 00–01, lecturer, 01–03, asst. prof. pharmacol. and therapeut, 03; *prof. mat. med, therapeut. and clin. med, Med. Dept, Tulane, 03–* Physiol. Soc. Metabolism; renal physiology.—Chemistry of toxins, agglutinins and similar bodies.

Halsted, Prof. Byron D(avid), 121 Livingston Ave, New Brunswick, N. J. **Botany.* Venice, N. Y, June 7, 52. B.S, Michigan, 71, M.S, 74; Sc.D, Harvard, 78. Ed, 'Am. Agriculturist,' 79–85; *prof. bot*, Iowa State, 85–89; *Rutgers, 89–* Assoc. ed, 'Torrey Bul.' Silver medal, Mass. Hort. Soc. F.A.A; Soc. Nat; Bot. Soc. (pres, 01); Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci. (pres, 99–00); Soc. Hort. Sci. The diseases of plants; weeds; plant breeding.—Diseases of plants; breeding of crop plants.

Halsted, Dr. George Bruce, Kenyon College, Gambier, O. **Mathematics, Logic.* Newark, N. J, Nov. 25, 53. A.B, Princeton, 75, fellow, 75–76; Columbia, 76; fellow, Hopkins, 76–78; A.M, Princeton, 78; Ph.D, Hopkins, 79. Instr.

postgrad. math, Princeton, 78–81; *prof. math,* Texas, 82–03; St. John's (Md.), 03; *Kenyon, 03–* Mem. d'honneur du Comité Lobatchefsky. F.A.A. (v. pres, 03); Math. Soc; London Math. Soc; fel. Royal Astron. Soc; Soc. math. de France; Circolo Mat. di Palermo; and other Am. and foreign math. societies. Non-Euclidean geometry; the foundations of geometry; algorithmic logic; history of geometry; new treatment of geometry without motion, ratio or any infinite process, without limits or any continuity assumption.—Non-Euclidean spherics.

Halsted, Prof. William S(tewart), 1201 Eutaw Place, Baltimore, Md. *Medicine.* New York, N. Y, Sept. 23, 52. A.B, Yale, 74; M.D, Columbia, 77. Demonstrator anat, Columbia, 81–85; attending surgeon, Bellevue, Presbyterian, Roosevelt, Charity and Emigrant Hospitals, N. Y, 82–86; *surgeon-in-chief, Hopkins Hosp, and prof. surg, Hopkins, 89–* Hon. Sc.D, Columbia, 04; LL.D, Yale, 04; Edinburgh, 05. F.A.A; fel. Surg. Ass; Ass. Path. and Bact; assoc. fel. Am. Acad; hon. fel. Royal Col. Surg; hon. fel. Edinburgh Royal Col. Surg; Gesell. für Chirurgie. The moist blood clot in surgery; cancer of the breast; intestinal sutures; inguinal hernia; hypertrophy of the thyroid gland; acute hemorrhagic pancreatitis; surgery of the bile passages; peritonitis; hand disinfection; cocaine in surgery; abduction and adduction in fractures of the neck of the femur; refusion in carbonic oxid poisoning; silver in surgery; occlusion, partial and complete, of arteries with metal bands; etc.

Hamaker, Prof. J(ohn) I(rvin), College Park, Md. *Zoology.* Elizabethtown, Pa, Nov. 29, 69. A.B, Kansas, 93; A.B, Harvard, 94, A.M, 95, Ph.D, 97. Asst. zool, Radcliffe, Harvard, 94–95, Harvard, 95–97; *prof. biol,* Trinity (N. C.), 97–04; *Randolph-Macon, 04–* Curator, Mus. Nat. Hist, Trinity. F.A.A; Soc. Zool. The nervous system.—Actinians of Beaufort, North Carolina.

Hamann, Dr. C(arl) A(ugust), 2726 Prospect Ave, Cleveland, O. *Anatomy.* Davenport, Ia, Jan. 26, 68. M.D, Pennsylvania, 90. Asst. demonstrator *anat,* Pennsylvania, 91–93; *prof, Med. Col, Western Reserve, 93–* Ass. Anat; Am. Med. Ass; Cleveland Acad. Med. Human anatomy.

Hamill, Dr. Samuel McC(lintock), 1822 Spruce St, Philadelphia, Pa. *Medicine.* Oak Hall, Pa, Nov. 3, 64. A.B, Princeton, 86; M.D, Pennsylvania, 88. Demonstrator physical diagnosis and instr. clin. med, Pennsylvania, 92–01; *prof. diseases of children, Phila. Polyclinic, 01–* Ass. Path. and Bact; Pediat. Soc; Phila. Pediat. Soc; Phila. Col. Physicians; Phila. Path. Soc; Phila. Neur. Soc. Tuberculosis of the kidneys in infants; salivary conditions in anemia; glandular fever; hemorrhage into the suprarenal capsules.

Hamilton, Dr. Alice, Hull House, Chicago, Ills. *Bacteriology, Pathology.* New York, N. Y, Feb. 27, 69. M.D, Michigan, 93; Leipzig, 95; Munich and Frankfort, 96; Hopkins, 97; Chicago, 99–01. *Prof. path, Woman's Med. Col, Chicago, 98–; asst. pathologist, Mem. Inst. for Infectious Diseases, 02–* Ass. Path. and Bact; Chicago Path. Soc. Pathology and embryology of the nervous system; development of elastic tissue; tumors; tuberculous ulcers of stomach; relation of flies to the dissemination of typhoid bacilli; the toxicity of the blood in scarlet fever; surgical scarlatina.—Virulent pseudodiptheria bacilli.

Hammer, William J(oseph), 26 Cortlandt St, New York, N. Y. *Physics, Electrical engineeering.* Cressona, Pa. High Sch. Lab. asst. to Edward Weston, 78–80; to Thomas A. Edison, 80–81; engineer, English Edison Co, 81–82; chief engineer, German Edison Co, 82–84; chief inspector, Edison Co, 84–86; manager, Boston Edison Co, 86–88; consulting engineer, Cincinnati Centennial Expos, 88; representative of Thos. A. Edison, Paris Expos, 89; *consulting elec. engineer and expert, N. Y. City, 90–* Lecturer, various institutions and societies. John Scott medal, Franklin Inst; grand prize, La. Purchase Expos, 04. Delegate, Int. Elec. Cong, Paris, 00; mem. Committee on Organization, St. Louis, 04. M.A.A; Physical Soc; Elec. Eng. (v. pres.); Electrochem. Soc; Nat. Conf. Standard Elec. Rules; N. Y. Elec. Soc; Franklin Inst. Radium; radiant phenomena; phosphorescence and fluorescence; X-rays; cathode rays; selenium and its properties.

Hammerslough, Miss Carrie, 1215 Madison Ave, New York, N. Y. *Mathematics.* Baltimore, Md, Dec. 18, 75. A.B, Columbia, 96, Curtis scholar, 97, A.M, 97. *Private tutor math, 96–* Math. Soc.

Hammond, John Hays, 71 Broadway, New York, N. Y. *Mining engineering.* San Francisco, Cal, March 31, 55. Ph.B, Yale, 76; Royal Sch. of Mines, Freiberg. Special expert, U. S. Geol. Surv, 80; *mining engineer.* Hon. A.M, Yale. F.A.A. Mining.

Hammond, Prof. William A(lexander), 29 East Ave, Ithaca, N. Y. *Philosophy.* New Athens, O, May 20, 61. A.B, Harvard, 85; Ph.D, Leipzig, 91. Lecturer classical lit, King's Col, Windsor, N. S, 85–88; instr. Greek philos, *Cornell,* 91–92, *asst. prof. ancient and medieval philos, 92–* Philos. Ass; Psychol. Ass; Philol. Ass. Hylozoism; Platonism; Aristotelianism; Greek philosophy.—Greek psychology and esthetics.

Hanawalt, Prof. Francis W(ayland), Cor. Perry and Ingham Sts, Albion, Mich. *Mathematics, Astronomy.* Monticello, Ind, Feb. 22, 59. A.B, De Pauw, 84, A.M, 87; Chicago, 97, 99; Cornell, 01; Chamberlin Observatory, 03. Prof. math. and astron, Mt. Morris, 84–93; instr. math, De Pauw, 93–98; *prof. math. and astron,* Iowa Wesleyan, 98–03; *Albion, 03–* Hon. A.M, De Pauw, 02. Math. Soc.

Hancock, E(dward) L(ee), 927 Highland Ave, La Fayette, Ind. *Mechanics.* Shullsburg, Wis, June 28, 73. B.S, Wisconsin, 98, M.S, 01; Chicago. Supt. schools, Shullsburg, Wis, 98–

00; asst. math, Wisconsin, 00–02; *instr, Purdue, 02–03, applied mech, 03–* Math. Soc; Soc. Testing Materials. Behavior of ductile materials under combined stresses.—Effect of combined stresses on the elastic properties of materials; effect of reversed torsion on the strength of iron and steel.

Hancock, Prof. Harris, Auburn Hotel, Cincinnati, O. **Mathematics.* Ellerslie, Va, May 14, 67. Virginia, 86; A.B, Hopkins, 88; Ph.D, Berlin, 94; Sc.D, Paris, 01. Asst. *math,* Chicago, 92–93, 94–95, assoc, 95–97, instr, 97–00; *prof, Cincinnati, 00–* M.A.A; Math. Soc; London Math. Soc; Math. Verein; Soc. math. de France. Modular systems; extended realms of rationality; maxima and minima in several variables; calculus of variations; minimal surfaces; Abelian functions.—Extended realms of rationality; elliptic functions.

Hancock, Dr. Joseph L(ane), 3757 Indiana Ave, Chicago, Ills. *Ornithology, Entomology.* Chicago, April 12, 64. M.D, Northwestern, 88. Curator, Ornith. Exped. to Corpus Christi, Tex, 84; *practising physician, 88–* Am. Med. Ass; Nat. Geog. Soc; Ills. Med. Soc; Chicago Acad; Chicago Med. Soc; Chicago Entom. Soc. (past curator and ed, 'Memoirs'); life fel. London Entom. Soc. Tettigidæ of North America; the striped meadow cricket; ornithophilous pollination; the castle-building spider; brain weight of birds; Tettigidæ of Ceylon.—Orthoptera of the Chicago area.

Handy, James Otis, 109 Graham St, Pittsburg, Pa. *Chemistry, Metallurgy.* Barnstable, Mass, Jan. 2, 69. Mass. Inst. Tech, 84–86. Asst. chemist, Union Pacific R. R, 86–87; Baltimore and Ohio R. R, 88; *chief chemist, Pittsburg Testing Lab, 89–* Mem. Commission on Filtration of Water Supplies of Pittsburg and Allegheny, 95. Chem. Soc; Soc. Chem. Indust; West. Pa. Eng. Soc. Methods of chemical analysis; rapid method for phosphorus in steel; magnesia in compounds.—Water softening.

Hanford, Dr. G(eorge) A(rthur), P. O. Box 55, Syracuse, N. Y. *Physiological chemistry.* Syracuse, Oct. 14, 75. A.B, Yale, 98, Ph.D, 02. Asst. physiol. chem, Yale, 99–02; lecturer, *Syracuse Med. Col,* 02–03, *director, Dept. Chem, 03–* Physiological rôle and toxicology of cæsium compounds.

Hanna, Prof. Ulysses S(herman), 828 Atwater Ave, Bloomington, Ind. *Mathematics.* Selma, Ind, Jan. 16, 65. A.B, Indiana, 95, A.M, 98; Harrison fellow, Pennsylvania, 99–01, Ph.D, 05. Instr. *math,* High Sch, New Castle, Ind, 90–94; *Indiana, 95–99, asst. prof, 99–* Math. Soc; Ind. Acad. The bitangenitals of the quintic and sextic; simple groups with orders between 2000 and 4080.

Hanus, Prof. Paul Henry, 15 Phillips Place, Cambridge, Mass. *Education.* Hermsdorf unter dem Kynast, Prussia, March 14, 55. State Nor. Sch, Platteville, Wis, 72–74; B.S, Michigan, 78. Teacher science and math, High Sch, Dist. No. 1, Denver, 78–79; instr. and later prof. math, Colorado, 79–86; principal, High Sch, Dist. No. 2, Denver, 86–90; prof. pedag, Colo. State Nor. Sch, 90–91; asst. prof. *educ, Harvard,* 91–01, *prof, 01–* Education.—Electives in secondary and higher education; contemporary school programs.

Hardesty, Prof. Irving, 711 Taylor St, San Francisco, Cal. **Neurology.* Beaufort, N. C, Oct. 18, 66. A.B, Wake Forest, 92; Ph.D, Chicago, 99. Principal, Wakefield Acad, N. C, 92–93; asst. biol, Missouri, 95–96; neur, Chicago, 98–00; instr. *anat, California,* 00–03, *asst. prof, 03–* Ass. Anat. Development and architecture of the nervous system, human and comparative.—Origin and development of the nodes of Ranvier.

Hardin, Prof. M(ark) B(ernard), Clemson College, S. C. *Chemistry.* Alexandria, Va, Aug. 14, 38. Grad, Va. Mil. Inst, 58. Asst. prof. chem, Va. Mil. Inst, 58–60, adj. prof, 60–61; military service, 61–65; anal. chemist, N. Y. City, 65–67; prof. chem, Va. Mil Inst, 67–90; *prof. chem, Clemson, and chief chemist, Agr. Exp. Sta, 90–* Chem. Soc; Ass. Off. Agr. Chemists; cor. mem. N. Y. Acad. Mineral waters; cottonseed meal; flame reaction of silver.—Action of lime on nitrogenous organic matters.

Hardin, Dr. Willett L(epley), 814 Monadnock Building, Chicago, Ills. **Chemistry, Mineralogy.* Lima, O, Dec. 8, 68. B.S, Buchtel, 93; Ph.D, Pennsylvania, 96, fellow, 96–99. Instr. chem. and physics, Buchtel, 93–94; lecturer physical chem, Pennsylvania, 96–00, instr. physical and tech. chem, 99–00; *gen. manager, Symmes Valley Coal Co.* Chairman, Jury of Awards, Sect. Chem. Apparatus, Nat. Export Expos, 99. Chem. Soc; Min. Eng. The liquefaction of gases; atomic masses of silver, mercury, cadmium, tungsten and palladium; derivatives of palladium with organic bases; tungsten derivatives.

Harding, Dr. Everhart Percy, 1316 Seventh St, S.E, Minneapolis, Minn. *Chemistry.* Waseca, Minn, Aug. 15, 70. A.B, Minnesota, 94, M.S, 95; Ph.D, Heidelberg, 00. Asst. *chem, Minnesota, 94–96,* instr, 96–99, lecturer, 01–05, *asst. prof, 05–* F.A.A; Chem. Soc. Chemistry of wheat; synthesis and reduction of aldazins; derivatives of reduction products; synthesis and derivatives of hydrazones; synthesis of 2.5 dimethylbenzaldehyde, the establishment of its constitution and the preparation of derivatives.—Synthesis of 2.5 dimethylbenzaldehyde and salts of derivatives of 2.5 dimethylbenzaldazin.

Harding, H(arry) A(lexis), Agricultural Experiment Station, Geneva, N. Y. *Bacteriology.* Oconomowoc, Wis, Nov. 28, 71. B.S, Wisconsin, 96, fellow, 97–98, M.S, 98; Germany, 98. *Bacteriologist, N. Y. Agr. Exp. Sta, 99–* M.A.A; Soc. Bact. Dairy bacteriology; bacterial plant diseases.—Causes of cheese ripening; soft rot in plants; fixation of nitrogen.

Hardy, Dr. Arthur Sherburne, Legation of the United States, Madrid, Spain. *Mathematics.* Andover, Mass, August 13, 47. Grad, U. S. Mil. Acad, 69; École des Ponts et Chaussées,

73–74. Prof. civil eng, Iowa (Grinnell), 71–73; Dartmouth, 74–78, math, 78–93; ed, 'Cosmopolitan,' 93–95; U. S. minister resident and consul-gen, Teheran, Persia, 97–99; *envoy extraordinary and minister plenipotentiary of the U. S*, Greece, Roumania and Servia, 99–01; Switzerland, 01–03; *Spain, 03–* Hon. A.M, Iowa; Ph.D, Dartmouth. Quarternions; calculus; topographical surveying; imaginary quantities.

Hardy, Dr. James G(raham), Williamstown, Mass. *Mathematics.* Easton, Pa, March 13, 74. A.B, Lafayette, 94, A.M, 97; fellow, Hopkins, 97–98, Ph.D, 98. Instr. and later *asst. prof. math, Williams, 98–* Math. Soc. Darboux lines on surfaces; curves of triple curvature.—Curves in a space of n-dimensions.

Hardy, Prof. J(oseph) J(ohnston), Easton, Pa. *Mathematics.* New Castle, England, Oct. 4, 44. A.B, Lafayette, 70, A.M, 73. *Prof. math. and astron, Lafayette, 91–* Hon. Ph.D, Hamilton. Analytic geometry; infinitesimals and limits.

Hare, Dr. H(obart) A(mory), 1801 Spruce St, Philadelphia, Pa. **Therapeutics.* Philadelphia, Sept. 20, 62. M.D, Pennsylvania, 84, B.S, 85. Clin. prof. diseases of children, Pennsylvania, 90–91; *prof. therapeut, Jefferson Med. Col, 91–* Fiske Fund, R. I. Med. Soc, 85, 86; Fothergillian medal, London Med. Soc, 88; prize, Acad. Royale de Méd. de Belgique, 89; Boylston prize, 91; M.D, Jefferson Med. Col, 93. Soc. Nat; Am. Physicians; Physiol. Soc; fel. Phila. Col. Physicians. Experimental therapeutics; clinical medicine.—The effect of certain drugs on bacteriolysis.

Harger, Prof. S(imon) J(acob) J(ohn), 2108 Locust St, Philadelphia, Pa. *Veterinary science.* Hecktown, Pa, June 18, 65. Keystone State Nor. Sch, 84; V.M.D, Pennsylvania, 87. Demonstrator vet. anat, *Pennsylvania, 87–91, prof. vet. anat. and zootechnics, 91–* Mem. State Board Vet. Med. Examiners, Pa, 95–99. Vet. Med. Ass; Keystone Vet. Med. Ass. Exterior of the horse.

Hargitt, Prof. Cha(rle)s W(esley), 909 Walnut Ave, Syracuse, N. Y. **Zoology.* Near Lawrenceburg, Ind, March 28, 52. B.S, Moores Hill, 77; Mass. Inst. Tech, 84–85; Ph.D, Ohio (Athens), 90; Naples Zool. Sta, 94, 03. *Prof.* nat. sciences, Moores Hill, 85–88; *biol,* Miami, 88–91; *Syracuse, 91–* Asst. director, Cold Spring Harbor, 91–93; trustee, Woods Hole. F.A.A. (sec'y, F, 95, v. pres, 03); Soc. Nat; Soc. Zool; Wash. Biol. Soc; N. Y. State Sci. Teachers Ass. (pres, 99); Syracuse Acad. (pres, 97–99). Morphology, development, regeneration and variation among coelenterates; the Alcyonaria of Puerto Rico; development of Scyphomedusae; Medusae of Woods Hole, Massachusetts; Hydromedusae of the Bay of Naples.

Hargitt, George T(homas), 909 Walnut Ave, Syracuse, N. Y. *Zoology.* Fairfield, Ind, Feb. 13, 81. Woods Hole, 01; Ph.B, Syracuse, 02; fellow, Nebraska, 02–03, A.M, 03; Woods Hole, 05. Asst. zool, Syracuse, 03; *teacher biol, High Sch,* Poughkeepsie, N. Y, 04–05; *Syracuse, N. Y, 05–* N. Y. State Sci. Teachers Ass; Onondaga Acad. Regeneration in Gonionema; regeneration in Hydromedusae; budding tentacles of Gonionema.—Effect of salt solutions and other artificial media on regeneration in Hydromedusae; histology of regenerated structure.

Harkins, Prof. W(illiam) D(raper), 521 E. Pine St, Missoula, Mont. *Chemistry.* Titusville, Pa, Dec. 28, 73. A.B, Stanford, 00; Chicago, 00, 03. Asst. *chem,* Stanford, 98–00, instr, 00; *prof, Montana, 00–* Chem. Soc; Mont. Acad. (sec'y). Molecular rearrangement; chronic poisoning of herbivorous animals by arsenic.

Harkness, Prof. James, McGill University, Montreal, Can. *Mathematics.* Derby, England, 64. A.B, Cambridge, 85, A.M, 88; A.M, London, 89. Assoc. *math,* Bryn Mawr, 88–93, assoc. prof, 93–96, prof, 96–03; *Redpath prof, McGill, 03–* Math. Soc. (mem. Council; assoc. ed, 'Trans.'). Theory of functions.—Elliptic functions.

Harper, Dr. Cha(rle)s A(sbury), 2139 Gilbert Ave, Cincinnati, O. *Chemistry.* Cincinnati, April 28, 48. Cincinnati, 84–86; Ph.D, Berlin, 96. Asst, Chem. Dept, Cincinnati, 88–92, asst. prof. chem, Pharmaceut. Dept, 89–90; lecturer, Mt. Auburn Inst, 89–92; asst, Dept. Org. Chem, Columbia, 97–99. Einige Derivate des Isocumarins, Isochinolins und Isocarbostyrils.

Harper, Dr. Henry Winston, 2208 San Antonio St, Austin, Tex. **Chemistry.* Boonville, Mo, Sept. 20, 59. Mound City Col, Boonville, 72–74; Ph.G, Phila. Col. Pharmacy, 81; M.D, Virginia, 92, grad. student, 94; Europe, 97. Mfg. chemist and perfumer, Ft. Worth, Tex, 81–84; chemist and metallurgist, Colo. and Refugio Mining and Smelting Co, Ceralvo, Nuevo Leon, Mex, 84–85; Compañia La Imogeña, San Jose, Tamaulipas, Mex, 86; chemist and pathologist to Drs. Beall and Adams, Ft. Worth, Tex, 87–90; adj. prof. chem, *Texas,* 94–97, assoc. prof. in charge, Sch. of Chem, and director, Chem. Lab, 97–03, *chemist, Mining Surv, 01–, prof. chem, 03–* Fifth Int. Cong. Applied Chem. F.A.A; Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Am. Med. Ass; fel. Tex. Acad. (pres, 00–01, v. pres, 01–02); fel. London Chem. Soc; Chem. Gesell. Pharmacology; geology; chemistry; pathology.—Chemistry of fatigue; chemistry of asphalt.

Harper, Prof. R(obert) A(lmer), 324 N. Carroll St, Madison, Wis. **Botany.* Leclaire, Ia, Jan. 21, 62. A.B, Oberlin, 86; Hopkins, 88–89; A.M, Oberlin, 91; Ph.D, Bonn, 96. Prof. Greek and Latin, Gates, 86–88; instr. science, Lake Forest Acad, 89–91; *prof.* bot. and geol, Lake Forest, 91–98; *bot, Wisconsin, 98–* Soc. Nat; Bot. Soc; Soc. Plant Morph. and Physiol; Bot. Cent. States; Bot. Gesell. Physiology of lower plants; cytology of the fungi.—Fertilization in mildews; cell and nuclear division in slime molds; structure of blue-green alga cells.

Harrington, Dr. B(ernard) J(ames), 295 University St, Montreal, Can. *Chemistry, Mineralogy.* St. Andrews, Que. A.B, McGill, 69; Ph.D, Yale, 71. Chemist and mineralogist, Can. Geol. Surv, 72–79; lecturer chem. and mining, *McGill, 71–83, prof. chem. and miner, 83–* LL.D, McGill, 99. Chem. Soc; Min. Eng; Soc. Chem. Indust; fel. Can. Royal Soc; fel. London Chem. Soc; fel. London Geol. Soc. Mineralogical chemistry.—The composition of certain Canadian minerals.

Harrington, Prof. Charles, 57 Orchard St, Jamaica Plain, Mass. *Hygiene.* Salem, Mass, July 29, 56. A.B, Harvard, 78, M.D, 81; Leipzig, Strasburg and Munich, 81–83. Asst. chem, *Harvard Med. Sch,* 83–84, instr. hygiene, 84–88, mat. med. and hygiene, 88–99, *asst. prof. hygiene, 99–* Chemist, Mass. State Board of Health, 83–91; inspector of milk, Boston, 89–05; sec'y, Mass. State Board of Health, 04– Ass. Path. and Bact; Pub. Health Ass; Chem. Soc; Mass. Med, Medico-Legal and Med. Benev. Societies; Boston Soc. Med. Sci. Hygiene; foods; disinfection; asepsis; water; air.—Toxic properties of respired air.

Harrington, Prof. H(enry) H(ill), College Station, Tex. *Chemistry.* Buena Vista, Miss, Dec. 14, 59. Mich. Agr. Col, 82; B.S, Miss. Agr. and Mech. Col, 83, M.S, 85. Asst. prof. chem. and physics, Miss. Agr. and Mech. Col, 82–88; prof. chem, *Tex. Agr. and Mech. Col,* 88–05, *pres, 05–*; state chemist and chemist, U. S. Exp. Sta, 88–05. Fel. Tex. Acad. Effect of food on the nature of butter fat; digestibility of feed stuffs; composition of certain plants.—Chemical characteristics of the rice plant.

Harris, Pres. A(bram) W(inegardner), Northwestern University, Evanston, Ills. *Education, Mathematics, Agriculture.* Philadelphia, Pa, Nov. 7, 58. A.B, Wesleyan, 80, A.M, 83; Berlin, 84; Munich, 85. Teacher math, Dickinson Sem, Williamsport, Pa, 80–81; tutor, Wesleyan, 81–84, instr. hist, 85–88; asst. director, Office Exp. Stations, U. S. Dept. Agr, 88–91, director, 91–93; pres, Maine, 93–01; director, Jacob Tome Inst, 01–05; *pres, Northwestern, 05–* Hon. Sc.D, Bowdoin, 94; LL.D, New Brunswick, 00; Maine, 02; Wesleyan, 04. F.A.A; Nat. Educ. Ass; Eng. Educ. Agriculture.

Harris, Prof. Elijah P(addock), 21 Woodside Ave, Amherst, Mass. *Chemistry.* Leroy, N. Y, April 3, 32. A.B, Amherst, 55; Ph.D, Göttingen, 59. Principal, High Sch, Sodus, N. Y, 55–56; Warsaw, N. Y, 56–57; *prof. chem,* Victoria (Can.), 59–65; Beloit, 66–68; *Amherst, 68–* LL.D, Victoria (Can.), 84. F.A.A. Chemistry.

Harris, Prof. G(ilbert) D(ennison), 307 Stewart Ave, Ithaca, N. Y. **Paleontology, Stratigraphy.* Ellicott, N. Y, Oct. 2, 64. Ph.B, Cornell, 86, grad. student, 86–87. Asst, Ark. Geol. Surv, 87–88; U. S. Geol. Surv, 88–92; Tex. Geol. Surv, 92–93; *asst. prof. paleont. and stratig, Cornell, 94–* State geologist, La, 98–; ed. and publisher, 'Bulletins Am. Paleont.' Geol. Soc; Soc. géol. de France. Stratigraphy.—Paleontology and stratigraphy of the Gulf Tertiaries.

Harris, Dr. J(ames) Arthur, 4169 A Shenandoah Ave, St. Louis, Mo. *Botany, Zoology.* Plantsville, O, Sept. 29, 80. A.B, Kansas, 01, A.M, 02; Ph.D, Washington (St. Louis), 03. Asst. *bot,* Mo. Bot. Garden, 01–03; *instr, Washington (St. Louis) 03–; librarian, Mo. Bot. Garden, 04–* Instr. bot, Summer Sch, Kansas, 00, 01. M.A.A; St. Louis Acad; St. Louis Biol. Soc. (sec'y, 04). Plant and animal ecology and geographical distribution.—Geographical distribution of pollination adaptations; ecology of hydrophytes.

Harris, Dr. Norman Mac L(eod), University of Chicago, Chicago, Ills. *Bacteriology.* Montreal, Can, Feb. 3, 70. M.B, Toronto, 94. Demonstrator bacter, Toronto, 96–97; asst. path, Hopkins, 97–98, *bacter,* 98–99, instr, 99–00, assoc, 00–03; *instr, Bacter. Lab, Chicago, 03–* M.A.A; Ass. Path. and Bact; Soc. Bact; Pub. Health Ass.

Harris, Dr. R(ollin) A(rthur), 49th and Albany Sts, Washington, D. C. *Mathematics, Physics.* Randolph, N. Y, April 18, 63. Ph.B, Cornell, 85, Ph.D, 88; Clark, 89–90. *Mathematician, U. S. Coast and Geod. Surv, 90–* F.A.A; Geog. Ass; Wash. Acad; Wash. Philos. Soc. Theory of functions with applications to physics, geodesy and cartography; the tides; the flow of water; cotidal maps.

Harris, Prof. W(alter) B(utler), 280 Nassau St, Princeton, N. J. *Civil engineering.* Princeton, July 13, 65. C.E, Col. of New Jersey, 86. Asst. engineer, Central R. R. of N. J, 89; instr. civil eng, *Princeton, prof. geod, 98–* Township engineer; pres, Board of Health; borough engineer. Protection of New Jersey shore.

Harris, Dr. W(illiam) T(orrey), 1360 Yale St, N. W, Washington, D. C. **Philosophy.* North Killingly, Conn, Sept. 10, 35. A.M, Yale, 69. Teacher, principal and asst. supt. pub. schools, 57–67; supt, St. Louis, 67–80; *U. S. Commissioner of Educ, 89–* Lecturer, Sch. of Philos, Concord; ed, 'Jour. of Spec. Philos,' 67– Officier de l'Academie, 78; Officier de l'Instruction Pub, 89; LL.D, Missouri, 70; Ph.D, Brown, 93; LL.D, Pennsylvania, 94; Yale, 95; Princeton, 96; Ph.D, Jena, 99. Representative, U. S. Bur. Educ, Int. Cong. of Educators, Brussels, 80; Paris, 89. Philos. Ass; Nat. Educ. Ass; Social Sci. Ass; Nat. Geog. Soc; Wash. Acad; Wash. Anthrop. Soc. Philosophy; psychology; logic; education.

Harrison, Prof. J(ohn) B(urchmore), Georgetown, Demerara, British Guiana. *Chemistry, Geology, Agriculture.* Birmingham, England, May 29, 56. A.B, Christ's College, Cambridge, England, 77, A.M, 87. Island prof. chem. and agr. science, Barbados, B.W.I, 79–89; *govt. analyst and geologist and prof. chem, British Guiana, 89–, director science and agr, 05–* Wollaston award, London Geol. Soc, 89; Companion of St. Michael and St. George, 91. Geol. Soc; Chem. Soc; Soc. Chem. Indust; fel. London Chem. Soc; London Geol. Soc; Inst. Chem. of Gt. Britain and Ireland; British Soc. Pub. Analysts. Trop-

ical agricultural chemistry; the oceanic deposits and coral rocks of the West Indies; the geology of the Guianas.—Agricultural studies with tropical products; the structure and petrography of the Guianas.

Harrison, Dr. R(oss) G(ranville), Charles St, Baltimore, Md. **Anatomy.* Germantown, Pa, Jan. 13, 70. A.B, Hopkins, 89; Ph.D, 94; M.D, Bonn, 99. Lecturer morph, Bryn Mawr, 94–95; instr. *anat, Hopkins,* 96–97, assoc, 97–99, *assoc. prof, 99–* Managing ed, 'Jour. Exp. Zool.' Soc. Nat. (sec'y, 01–03); Ass. Anat; Soc. Zool. (mem. Exec. Committee, 02); Soc. Exp. Biol. and Med; Anat. Gesell. Development of fins of fishes; the histogenesis of the peripheral nervous system; amphibian larvae; development of the lateral line in Amphibia; relation of the nervous system to muscle differentiation in the embryo.—Development and regeneration of peripheral nerves.

Harshberger, Dr. John W(illiam), 737 Corinthian Ave, Philadelphia, Pa. **Botany.* Philadelphia, Jan. 1, 69. B.S, Pennsylvania, 92, Ph.D, 93. *Instr. bot. and zool, Pennsylvania, 92–* Teacher, Rittenhouse Acad, 92–95; ed. bot. words, 'Lippincott's New English Dict,' 95–; lecturer, Am. Soc. of Univ. Extension, 96. M.A.A; Soc. Plant Morph. and Physiol; Nat. Geog. Soc; Pa. Bot. Soc; Pa. Forestry Ass; Phila. Acad. (recorder, Bot. Sect.); Phila. Geog. Soc; Phila. Bot. Club. Maize; ethnobotany; ecology of New Jersey strand flora, Valley of Mexico, southeastern Pennsylvania, Mt. Katahdin (Me.) and the mountains of North Carolina.—Ecological survey of Crum Creek Valley; phytogeography of North America.

Hart, Charles A(rthur), 923 W. Green St, Urbana, Ills. *Entomology.* Quincy, Ills, Oct. 12, 59. Ills. State Nor. Univ, 81–82. Asst, *State Lab. Nat. Hist, Illinois,* 84–89, *entomologist, 89–; asst. to state entomologist, 89–; entomologist, Ills. Biol. Sta, 94–* M.A.A; Soc. Nat; Ass. Econ. Entom; Soc. Zool; Wash. Entom. Soc. Aquatic insects; immature stages of insects.—Ephemeridae of Illinois; dragon-fly nymphs; larvae of Coccinellidae.

Hart, Prof. Edward, Easton, Pa. **Chemistry.* Doylestown, Pa, Sept. 18, 54. B.S, Lafayette, 73; fellow, Hopkins, 76–77, Ph.D, 78. Asst. *chem, Lafayette,* 74–75, tutor, 75–76, adj. prof, 77–82, *prof, 82–* Ed, 'Jour. Anal. Chem,' 87–93; consulting chemist. John Scott medal and premium. F.A.A. (sec'y, C, 89, v. pres, 93); Chem. Soc. (ed, 'Jour,' 92–01); Electrochem. Soc; Min. Eng; Franklin Inst; Ceramic Soc; Chem. Gesell. Volumetric analysis; new processes for the manufacture of nitric and hydrochloric acids; the nitrosulphobenzoic acids.—Alloys of glucinium; electric combustion; manufacturing chemistry.

Hart, Prof. J(ames) N(orris), Orono, Me. *Mathematics, Astronomy.* Willimantic, Me, May 22, 61. B.C.E, Maine, 85, C.E, 90; M.S, Chicago, 97. Instr. math. and drawing, *Maine,* 87–90, *prof. math. and astron, 91–, dean, 03–* M.A.A; Math. Soc; Astron. and Astrophys. Soc.

Hartman, Dr. L(eon) W(ilson), 205 Huestis St, Ithaca, N. Y. *Physics.* Downsville, N. Y, June 18, 76. B.S, Cornell, 98, A.M, 99; Frazer fellow, Pennsylvania, 02–03, Ph.D, 03, Tyndale fellow (Göttingen), 03–04. Asst. *physics,* Cornell, 00–01; prof, Kas. State Agr. Col, 01–02; *instr, Cornell, 04–* Spectrophotometric studies on Nernst lamp glowers and on mixtures of acetylene and hydrogen; acetylene; the radiation from black bodies in air; conduction and convection losses of black filaments in air.—Temperature and energy measurements on Nernst lamp glowers; radiation.

Hartwell, Dr. Burt L(aws), Kingston, R. I. *Chemistry, Plant physiology.* Littleton, Mass, Dec. 18, 65. B.S, Boston, 89; M.S, Mass. Agr. Col, 00; Ph.D, Pennsylvania, 03. Asst. chemist, Mass. Agr. Exp. Sta, 89–91; first asst. chemist, *R. I. Agr. Exp. Sta,* 91–03, *assoc. chemist, 03–* Chem. Soc. Composition of ashes of plants; plant fertilization; separation of rare elements by organic bases.—Assimilation of phosphorus by plants; substitution of sodium for potassium in plant nutrition.

Hartwell, Dr. John A(ugustus), 50 E. 53d St, New York, N. Y. *Medicine.* Sussex, N. J, Sept. 27, 69. Ph.B, Yale, 89, M.D, 92; Columbia, 92–93. *Asst. prof. physiol. and demonstrator anat, Med. Col, Cornell, 98–* Surgeon, Lincoln Hosp, N. Y. City, 97–; adj. asst. surgeon, Bellevue Hosp. Fel. N. Y. Co. Med. Soc; fel. N. Y. Acad. Med; N. Y. Surg. Soc.

Hartzell, Prof. J(oseph) Culver, The Alameda, Ave. 1755, San Jose, Cal. *Geology.* New Orleans, La, Sept. 10, 70. B.S, U. S. Grant Univ, 92, M.S, 95; Harvard, summer, 96; Hopkins, 96–98; Yale, 98–99, M.S, 99; Munich, summer, 03; Pisa, 03–04; Ph.D, Munich, 04. *Prof.* biol. and geol, Ills. Wesleyan, 99–04; *geol, Pacific, 04–* M.A.A; Nat. Geog. Soc; Am. Geog. Soc; Ohio Acad; Wash. Geol. Soc; Wash. Biol. Soc. Conditions of fossilization.—The mineral composition of fossil invertebrates, the conditions in which they occur, the mineral composition of their living representatives and the lithographic composition of the formations and the laws governing the fossilization; das Oberdevon, Europas und Nordamerikas.

Harvey, Dr. Basil C(oleman) H(yatt), University of Chicago, Chicago, Ills. *Anatomy.* Watford, Ont, Jan. 16, 75. A.B, Toronto, 94; licentiate, N. S. Nor. Col, 95; M.B. Toronto, 98. Asst. *anat,* Toronto, 95–97; *Chicago,* 01–02, assoc, 02–04, *instr, 04–* Ass. Anat; Ont. Col. Physicians and Surg. Gastric mucosa.

Haskell, E(ugene) E(lwin), 61 Euclid Ave, Detroit, Mich. *Civil engineering.* Holland, N. Y, May 10, 55. B.C.E, Cornell, 79, C.E, 90. With Mississippi River Surv, 80–85; U. S. Coast and Geod. Surv, 85–93; *principal asst. engineer, U. S. Lake Surv, 93–* F.A.A; Civil Eng; Nat. Geog. Soc; Detroit Eng. Soc. Measurement of the flow of water in open channels.

Haskell, Prof. M(ellen) W(oodman), P. O. Box 3, Berkeley, Cal. **Mathematics.* Salem, Mass,

March 17, 63. A.B, Harvard, 83, A.M, 85; Ph.D, Göttingen, 89. Instr. *math*, Michigan, 89–90; asst. prof, *California*, 90–94, *assoc. prof*, *94–* M.A.A; Math. Soc; Cal. Acad; Math. Verein; Circolo Mat. di Palermo. Modern analytic geometry.—Singularities of plane curves; groups of collineations.

Haskins, Caryl D(avis), 246 Union St, Schenectady, N. Y. *Electrical and military engineering.* Waltham, Mass, May 22, 67. London Univ. *Engineer*, Haskins, Davis and Co, London, 87–88; Ferrante and Co, London, 88–89; *Gen. Elec. Co, 90–* Submarine defenses of Boston, Spanish-Am. War. Elec. Eng; Naval Inst. Electrical measuring devices; submarine mines and torpedoes.

Haskins, Dr. Charles Nelson, 120 Oak Ave, Ithaca, N. Y. *Mathematics.* New Bedford, May 7, 74. B.S, Mass. Inst. Tech, 97; M.S, Harvard, 99, A.M, 00, Ph.D, 01; Göttingen, 01–02. Asst. physics, Mass. Inst. Tech, 97–98, *instr. math*, 02–03; *Cornell, 04–* Math. Soc; New Eng. Ass. Math. Teachers. Theory of differential forms. —Invariant theory of differential forms.

Hasselbring, Dr. Heinrich, University of Chicago, Chicago, Ills. *Botany.* Flint, Mich, Jan. 12, 75. B.S, Cornell, 99; Ph.D, Chicago, 05. Asst. bot, Cornell, 99–01; first asst. hort, N. Y. Agr. Exp. Sta, 01–02; plant pathologist, Illinois, 02–03; *asst. bot, Chicago, 03–* Plant pathology and physiology.

Hastings, Prof. C(harles) S(heldon), 248 Bradley St, New Haven, Conn. **Physics. Prof. physics, Sheffield Sci. Sch, Yale.* Nat. Acad; F.A.A; Physical Soc. General physics; light.

Hatai, Dr. Shinkishi, University of Chicago, Chicago, Ills. *Neurology.* Kominato, Japan, March 3, 77. Grad, Tohokugakuin, Sendai, Japan; Ph.D, Chicago, 02. Asst. biol, First High Sch, Tokyo, Japan, 98–99; instr, Cincinnati, 00–01; *asst. neur, Chicago, 02–* Minute structure of neurone; growth changes of central nervous system; comparative histology; effects of various food stuffs on the nervous system. —Influence of lecithin on the growth of central nervous system; histogenesis of interscapular gland in human foetus; growth changes of spinal nerves; finer structure of neurones; effect of partial starvation on the brain.

Hatcher, Dr. Rob(er)t A(nthony), 414 E. 26th St, New York, N. Y. *Pharmacology.* New Madrid, Mo, Feb. 6, 68. Ph.G, Phila. Col. of Pharmacy, 89; M.D, Tulane, 98. Prof. mat. med, Cleveland Sch. of Pharmacy, 00–04; *instr. pharmacol, Med. Col, Cornell, 04–* Physiol. Soc; Am. Med. Ass; Pharmaceut. Ass. Pharmacology.—Action of strychnin.

Hathaway, Prof. Arthur S(tafford), 2206 N. Tenth St, Terre Haute, Ind. **Mathematics, Physics.* Keeler, Mich, Sept. 15, 55. B.S, Cornell, 79; Hopkins, 80–84, fellow, 82–84. Instr. *math*, Friends High Sch, Baltimore, 79–80; Cornell, 85–89, asst. prof, 89–91; *prof, Rose, 91–* Reporter and ed, 'Lord Kelvin's Baltimore Lectures,' and Nat. Conf. of Electricians, 84; prof. math, Summer Sch, Chicago, 99. M.A.A; Math. Soc; fel. Ind. Acad. Theory of numbers; quaternions; mathematical physics. —Motion of three bodies; continuous transformations in quaternions.

Haupt, Prof. Lewis M(uhlenberg), 107 N. 35th St, Philadelphia, Pa. *Civil engineering, Physical geography.* Gettysburg, Pa, March 21, 44. Harvard, 63; grad, U. S. Mil. Acad, 67. U. S. engineer, Lake Surv, 67; in charge, Fifth Mil. District, Tex, 69; asst. engineer, Fairmount Park, Phila, 69; first asst. examiner, U. S. Patent Office, 72; instr. math. and civil eng, Pennsylvania, 72–75, prof. civil eng, 75–92; asst, U. S. Lighthouse Service, 74; U. S. Coast and Geod. Surv, Pa, 75–80; consulting engineer, 92–05; *pres, Reaction Jetty Co, 02–* Sec'y, Bur. of Awards, Centennial Expos, 76; asst. judge, Dept. Transport, Paris Expos, 89; delegate and commissioner from Pa. to Nicaragua Canal Convention, New Orleans, 92; mem. Nicaragua Canal Commission, 97; Isthmian Canal Commission, 99–02. Magellanic premium, 87; medal and diploma, Nat. Export Expos, 99; Elliott Cresson medal and diploma, Franklin Inst, 01; hon. M.S, Pennsylvania, 83; Sc.D, Muhlenberg, 05. F.A.A; Civil Eng; Min. Eng; Philos. Soc; Civil Service Ass; Franklin Inst; Phila. Geog. Soc; Phila. Eng. Club (pres.). Physical laws of bar formation and current and wave action; designs for automatic bar removal; reclamation.

Haviland, Prof. Edwin, Jr, 722 Madison St, Seattle, Wash. *Civil engineering, Mathematics.* Brooklyn, N. Y, Oct. 9, 63. B.S, Swarthmore, 85; A.M, Cornell, 99. Civil and mining engineer, 85–98; instr. math. and civil eng, Swarthmore, 99–00; math, Cutler Sch, 00–01; prof. math. and civil eng, Thomas S. Clarkson Mem. Sch. Tech, 01–04; *practising civil engineer, 04–* Math. Soc; Eng. Educ.

Hawkes, Dr. H(erbert) E(dwin), 20 Carmel St, New Haven, Conn. **Mathematics.* Templeton, Mass, Dec. 6, 72. A.B, Yale, 96, Ph.D, 00; Göttingen, 01–02. *Asst. prof. math, Yale, 98–* Math. Soc; Math. Verein. Hypercomplex numbers.

Haworth, Prof. E(rasmus), 1503 Massachusetts St, Lawrence, Kas. **Geology, Mineralogy.* Warren Co, Ia, April 17, 55. B.S, Kansas, 81, M.S, 84; A.M, Ph.D, Hopkins, 88. *Prof.* nat. science, Penn, 83–92; *geol. and miner, Kansas, 92–; state geologist, Kas. Geol. Surv, 95–* With U. S. Geol. Surv, 88, 96, 03, 04; Mo. Geol. Surv, 89–92; mem. Kas. State Irrig. Board, 95–96. Geol. Soc; Nat. Geog. Soc; Kas. Acad. Irrigation and water supplies; Kansas geology. —Kansas geology and mineralogy.

Hay, Dr. G(eorge) U(pham), St. John, N. B, Can. *Botany.* Norton, N. B, June 18, 43. Cornell, 70; Summer Sch, Harvard, 83; Ph.B, Ills. Nor, Univ, 86. Principal, Girls' High Sch, St. John, 87–97. Ed, 'N. B. Jour. of Educ,' 86–87; 'Educ. Rev,' St. John, 87– Hon. A.M, Sc.D,

Acadia. Cor. mem. New Eng. Bot. Club; cor. mem. Minn. Hist. Soc; fel. Can. Royal Soc. (pres, Sect. IV, 04); Can. Bot. Club (pres, 04–); N. B. Nat. Hist. Soc. (pres, 97–01). Plant ecology; occurrence of the larger fungi in New Brunswick.

Hay, Dr. O(liver) P(erry), American Museum of Natural History, New York, N. Y. **Paleontology.* Jefferson Co, Ind, May 22, 46. A.B, Eureka, 70, A.M, 73; Sheffield Sci. Sch, Yale, 76; Ph.D, Indiana, 84. Prof. nat. science, Eureka, 70–73; zool. and geol, Butler, 83–92; *asst,* Field Columbian Mus, Chicago, 95–97; *Dept. Vert. Paleont, Am. Mus. Nat. Hist, 00–* F.A.A; Paleont. Soc. (sec'y, 04); fel. N. Y. Acad; Ind. Acad. (pres, 91). Living and fossil fishes and reptiles.—Fossil turtles of North America.

Hay, Prof. W(illiam) P(erry), 2465 Sixth St, N. W, Washington, D. C. *Zoology.* Eureka, Ills, Dec. 8, 72. B.S, Butler, 91, M.S, 92. Instr. zool, Central High Sch, Washington, D. C, 92–98; head, Dept. Biol, Washington high schools, 98–00; *prof nat. hist, Howard, 00–* Asst. zool, Columbian; lecturer, Georgetown. M.A.A; Fisheries Soc; Nat. Geog. Soc; Wash. Acad; Wash. Biol. Soc; Wash. Entom. Soc. Life histories and relations of North American Crustacea.—Astacidae of North America.

Hayes, Rev. Charles H(arris), General Theological Seminary, Chelsea Square, New York, N. Y. *Apologetics.* Newark, N. J, Sept. 1, 68. A.B, Columbia, 90, fellow, 90–92, A.M, 91; B.D, Gen. Theol. Sem, 94; fellow philos, Church Univ. Board Regents (Berlin, Halle and Oxford), 94–96. Asst, St. Mark's Church, Washington, D. C, 96–00; examining chaplain, Diocese of Washington, 97–00; chaplain to Bishop of Maine, 00–01; assoc. prof. philos, Trinity (Conn.), 01–02; *prof. Christian apologetics, Gen. Theol. Sem, 02–* Philos. Ass. The psychology of religious belief.

Hayes, Dr. C(harles) Willard, 1514 Howard Ave, Washington, D. C. **Geology.* Granville, O, Oct. 8, 59. A.B, Oberlin, 83; Hopkins, 84–86, fellow, 86–87, Ph.D, 87. Principal, High Sch, Brecksville, O, 83–84; asst. geologist, *U. S. Geol. Surv,* 87–95, *geologist,* 95–02, *in charge geol, 02–* Geologist, Nicaragua Canal Commission, 97–98. F.A.A; Geol. Soc; Min. Eng; Wash. Acad. Areal, structural and economic geology and physiography.—Geology of the southern Appalachians.

Hayes, Prof. E(llen), Wellesley, Mass. *Astronomy.* Granville, O, Sept. 23, 51. A.B, Oberlin, 78. Teacher math, *Wellesley,* 79–83, assoc. prof, 83–88, *prof,* 88–97, applied math, 97–04, *astron, 04–* F.A.A. Definitive orbit of minor planet, No. 267; calculus with applications.—Latitude of the Whitin Observatory; an elementary practical astronomy.

Hayford, John F(illmore), 231 Second St, S. E, Washington, D. C. *Geodesy.* Rouses Point, N. Y, May 19, 68. C.E, Cornell, 89. Computer, U. S. Coast and Geod. Surv, 89–91; asst. astronomer, Mex. Boundary Surv, 92–93; aid and asst, U. S. Coast and Geod. Surv, 94–95; instr. civil eng, Cornell, 95–98; computer and asst, *U. S. Coast and Geod. Surv,* 98–99, *inspector geod. work and chief of Computing Div, 00–* F.A.A. (sec'y, A, 99); Astron. and Astrophys. Soc; Civil Eng; Wash. Philos. Soc. (sec'y, 01–04). Geodetic astronomy.—American geodesy.

Hayne, Prof. A(rthur) P(eronneau), Lanao District, Moro Province, Mindanao, P. I. *Zymology, Horticulture.* Charleston, S. C, Feb. 18, 67. Ph.B, California, 89; Montpellier; Bordeaux; Geisenheim-am-Rhein. Asst. prof. viticulture and olive culture, California, 93–00; director, Col. Agr, La Carlota, Negros, P. I, 03–04; *sec'y, Lanao Dist, Moro Province, Mindanao, P. I, 04–* First lieut. artil. detailed to report on the resources of the Philippine Islands, 98–99; exploring Visayan and Moro Islands, 99–03. Fermentation and vegetable pathology; horticulture; viticulture; Moro customs and laws; tropical agriculture.—Moro customs; tropical agriculture.

Haynes, Prof. Arthur Edwin, 703 River Parkway, S.E, Minneapolis, Minn. *Mathematics.* Van Buren, N. Y, May 23, 49. B.S, Hillsdale, 75, Michigan, summers, 77, 78; M.Ph, Hillsdale, 79; Harvard, summer, 90; Cornell, summer, 92. Instr. math. and physics, Hillsdale, 75, acting prof, 76, *prof,* 76–90; Mich. Col. Mines, 90–93; math, *Col. Eng, Minnesota,* 96–01, *eng. math, 01–* Hon. Sc.D, Hillsdale, 96. M.A.A; Eng. Educ. Engineering mathematics.

Haynes, Prof. Henry W(illiamson), 239 Beacon St, Boston, Mass. *Archeology.* Bangor, Me, Sept. 20, 31. A.M, Harvard, 51. Prof. Greek and Latin, Vermont, 67–72; *archeol. explorer, 72–* Medal and diploma, Paris Expos, 77. F.A.A; Antiq. Soc; Am. Acad; Mass. Hist. Soc. (cor. sec'y); Boston Soc. Nat. Hist (v. pres.). Prehistoric archeology of Egypt, Europe and North America; early Spanish explorations in North America.

Haynes, Dr. Irving S(amuel), 1125 Madison Ave, New York, N. Y. *Medicine, Surgery.* Saranac, N. Y, Aug. 29, 61. Ph.B, Wesleyan, 85; M.D, N.Y. Univ, 87. Interne, Bellevue Hosp, 87–88; demonstrator anat, N. Y. Univ, 89–94, adj. prof, 94–98; *visiting surgeon, Harlem Hosp, 95–; prof. practical anat, Med. Col, Cornell, 98–* Asst. attending surgeon, Chambers St. Hosp, 88–90; asst. attending surgeon, N. Y. Orthop. Hosp, 91–99. Asst. Anat; Am. Med. Ass; N. Y. State and Co. Med. Associations; N. Y. Surg. Soc; N. Y. Acad. Med. Anatomy; surgery.

Hays, Dr. I. Minis, 266 S. 21st St, Philadelphia, Pa. *Medicine.* Philadelphia, July 26, 47. A.B, Pennsylvania, 66, M.D, 68, A.M, 69. Ed, 'Am. Jour. Med. Sciences,' 69–90; 'Med. News.' Int. Med. Cong, Phila, 76 (gen. sec'y). Hon. mem. Am. Physicians; Philos. Soc. (sec'y); Pa. Hist. Soc; Phila. Col. Physicians.

Hays, Prof. W(illet) M(artin), U. S. Department of Agriculture, Washington, D. C. *Agriculture.* Eldora, Ia, Oct. 18, 59. B.Agr, Iowa State,

85, M.Agr, 97. Asst. agr, Iowa State, 86; assoc. ed, 'Prairie Farmer,' 87; asst. agr, Minnesota, 88–89, prof, 90–91; N. Dak. Agr. Col, 92–93; prof. agr. and v. director, Exp. Sta, Minnesota, 94–04; *Asst. Sec'y of Agr, 05–* F.A.A; Soc. Prom. Agr. Sci; Soc. Hort. Sci. Plant and animal breeding; farm economics; farm management; agricultural education.

Hazen, Allen, St. Paul Building, New York, N. Y. *Water supply.* Hartford, Vt, Aug. 28, 69. M.H, C.A, M.A, Mass. Inst. Tech. In charge, Exp. Sta, State Board of Health, Mass, 88–93; *practising civil engineer,* Boston, 94–97; *N. Y. City, 97–* In charge sewerage disposal, Columbian Expos, 93; chief engineer, Albany Water Filtration Plant, 98–99. Rowland prize, Civil Eng, 00. Am. Water Works Ass; Civil Eng; Chem. Soc; Public Health Ass; New Eng. Water Works Ass; New Eng. Soc. Eng; Appalachian Mt. Club; Boston Soc. Civil Eng. Filtration of public water supplies.

Hazen, Miss Annah Putnam, Wilder, Vt. *Zoology.* Wilder, Sept. 22, 72. B.L, Smith, 95; M.S, Dartmouth, 97; Bryn Mawr, 97–99, fellow, 98–99. Teacher biol, N. H. Nor. Sch, 99–00; asst. zool, Smith, 00–03; *teacher biol, High Sch, N. Y. City, 03–* Development of the coxal gland in Limulus; gastrulation in Amphioxus; regeneration of sea-anemones.—Regeneration of sea-anemones.

Hazen, Prof. John V(ose), 33 N. Main St, Hanover, N. H. *Engineering, Graphics.* Royalston, Mass, Nov. 22, 50. B.S, Dartmouth, 75, C.E, 76. Principal, Atkinson Acad, 77–78; tutor, *Dartmouth,* 78–79, instr. civil eng, 79–80, *prof.* civil eng. and mech, 80–93, *civil eng. and graphics, 93–* Civil Eng; Eng. Educ. Engineering.—Improvement of country roads.

Hazen, Dr. Tracy E(lliot), Barnard College, Columbia University, New York, N. Y. *Botany.* Jericho Center, Vt, July 4, 74. A.B, Vermont, 97; A.M, Columbia, 99, Ph.D, 00. Director, Fairbanks Mus. Nat. Science, St. Johnsbury, Vt, 01–02; asst. *bot, Columbia,* 02–03, *tutor, 03–* F.A.A; Soc. Plant Morph. and Physiol; Torrey Bot. Club; New Eng. Bot. Club; Vt. Bot. Club. Algae, chiefly Chlorophyceae.

Headden, Prof. W(illia)m P(arker), 322 E. Oak St, Fort Collins, Colo. *Chemistry.* Red Bank, N. J, Sept. 21, 50. A.B, Dickinson, 72; Ph.D, Giessen, 74; A.M, Dickinson, 75. Asst, Chem. Lab, Pennsylvania, 74–76; prof. chem, Md. Agr. Col, 80–84; Denver, 84–89; S. Dak. Sch. of Mines, 89–91, dean, 92–93; *prof. chem, Colo. Agr. Col, 93–* Colo. Sci. Soc. Mineralogy; analytical and agricultural chemistry.—Radiation; mineral waters; digestion.

Heald, Dr. F(rederick) D(eForest), University of Nebraska, Lincoln, Nebr. *Botany.* Midland City, Mich, July 23, 72. B.S, Wisconsin, 94, fellow, 94–96, M.S, 96; Ph.D, Leipzig, 97. Prof. biol, Parsons, 97–03; adj. prof. plant physiol, *Nebraska,* 03–05, *assoc. prof. bot, Sch. of Agr, and botanist, Exp. Sta, 05–* Instr. bot. and zool, Summer Sch, Wisconsin, 94. F.A.A; Soc. Nat; Nebr. Acad. (sec'y); Int. Ass. Bot. Pulvini and photeolic movements; toxic action of acids and salts on plants; conditions for germination of cryptogamic spores; regeneration of moss gametophyte; electric conductivity of plant juices.—Crown gall of raspberry; a black rot of apple; bacterial diseases of plants; etc.

Heany, J(ohn) Allen, York, Pa. *Physics.* Philadelphia, Pa, March 15, 76. A.B, Central High Sch, Phila, 95; special courses in chem. and bacter. Instr. physics and mech, Central High Sch, Phila, 95–98; *research work, 98–* Elec. Eng; Franklin Inst. Electric arc lighting; fire-proof insulation for electric conductors; chemistry of the rarer metals and the incandescence of the same produced electrically.—Production of special compounds by electrochemical processes; electrical determination of the spectrum.

Heath, Prof. Harold, Palo Alto, Cal. **Zoology.* Vevay, Ind, June 5, 68. A.B, Ohio Wesleyan, 93; Harrison fellow, Pennsylvania, 96–98, A.M, Ph.D, 98. Instr, Ohio Wesleyan, 90–93; prof. biol, Pacific, 93–94; instr. *invert. zool, Stanford,* 94–96, asst. prof, 98–01, *assoc. prof, 01–* Teacher invert zool, Hopkins Seaside Lab, 95–00; hon. curator invertebrates, Acad. Nat. Sci, San Francisco, Cal. Soc. Zool; Cal. Acad; Wash. Acad; Pacific Coast Biol. Ass. Anatomy and embryology of mollusks; anatomy and embryology of the chitons of the west coast of North America; anatomy of some Pacific pteropods; Solenogastres.—The later development of chitons; cephalopods of Hawaii, Alaska and the California coast; the Amphineura of Alaska and the California coast.

Hedgcock, Geo(rge) G(rant), Missouri Botanical Garden, St. Louis, Mo. *Phytopathology.* Augusta, Ills, Oct. 5, 63. B.S, Nebraska, 99, fellow, A.M, 01. Principal pub. schools, Ruskin, Nebr, 90–92; Oak, Nebr, 92–94; asst. bot, Nebraska, 99; scientific aid, *U. S. Dept. Agr,* 01, *asst. path, 02–* F.A.A; Mycol. Soc; Nebr. Acad; Int. Ass. Bot. The relation of the physiological water in the soil to that in plants; Thorea; new apparatus for phytopathological work; proof of the identity of Phoma and Phyllosticta on the sugar beet.—Crown gall diseases of trees, etc; wood-blackening fungi; Botrytis and Sclerotinia.

Hedrick, Dr. E(arle) R(aymond), University of Missouri, Columbia, Mo. **Mathematics.* Union City, Ind, Sept. 27, 76. A.B, Michigan, 96; Shattuck scholar, Harvard, 97–98, A.M, 98, Morgan fellow, 98–99, Parker fellow, 99–01; Ph.D, Göttingen, 01; Paris, 01. Instr. *math,* High Sch, Sheboygan, Wis, 96–97; Sheffield Sci. Sch, Yale, 01–03; *prof, Missouri, 03–* Math. Soc; Math. Verein; Soc. math. de France; Circolo Mat. di Palermo. Differential equations; calculus of variations; characteristics of differential equations.—Foundations of mechanics; pseudocontact transformations; non-analytic functions of a complex variable.

Hedrick, Henry B(enjamin), 3240 S St, N. W, Washington, D. C. *Mathematical astronomy.* Georgetown, D. C, July 22, 65. A.B, Columbian, 86. Asst, *'Nautical Almanac,'* 86–00, *senior asst, 00–* F.A.A; Nat. Geog. Soc. Positions and proper motions of the stars; a fundamental catalogue of 1607 zodiacal stars. —Theory and tables of nutation based on the constants of the Paris Conference of 1896.

Hefferan, Dr. Mary, University of Chicago, Chicago, Ills. *Bacteriology.* Eastmanville, Mich, June 24, 73. A.B, Wellesley, 96, A.M, 98; fellow, Chicago, 99–02, Ph.D, 03. Curator, *Bacter. Mus, Chicago,* 03–04, *asst. and curator, 04–* M.A.A. Variation; grafting (zoology); red chromogenic organisms.—Agglutinative relations in a group of non-pathogenic organisms; proteolytic enzymes in the prodigiosus group; anopheles in Michigan.

Heilprin, Prof. Angelo, Academy of Natural Sciences, Philadelphia, Pa. **Geology, Geography.* Sátoralja-Ujhely, Hungary, March 31, 53. London, 76–77; Geneva, 77–78. *Prof.* paleont, later *geol, Acad. Nat. Sciences, Phila, 81–,* curator, 83–92. Prof. geol, Wagner Free Inst. of Science, Phila, 85–90; lecturer physical geog, Sheffield Sci. Sch, Yale, 04–05. Longstreth medal, Franklin Inst, 96; Elisha Kent Kane medal, Phila. Geog. Soc, 03; Officier de l'Acad, 05. F.A.A; Soc. Nat; Geol. Soc; Geog. Ass; Philos. Soc; Am. Alpine Club (v. pres, 03); Phila. Geog. Soc. (pres, 92–96, 02–04). Geology; geography.

Heisler, Dr. John Clement, 3829 Walnut St, Philadelphia, Pa. *Anatomy, Embryology.* Jersey Shore, Pa, Feb. 27, 62. Ph.G, Phila. Col. Pharmacy, 83; M.D, Pennsylvania, 87. Prosector *anat,* Pennsylvania, 89–97; *prof, Phila. Medico-Chirurg. Col, 97–* Instr. diseases of chest, Phila. Polyclinic; asst. demonstrator anat. and curator, Wistar and Horner Mus, Pennsylvania, different periods, 89–97. Ass. Anat; Am. Med. Ass; Pa. Med. Soc; fel. Phila. Col. Physicians; Phila. Co. Med. Soc. Anatomy; embryology.

Hektoen, Dr. L(udvig), 5803 Washington Ave, Chicago, Ills. **Pathology.* Westby, Wis, July 2, 63. A.B, Luther, 83; M.D, Col. Physicians and Surg, Chicago, 87; Berlin, Prague and Upsala, 94–96. *Prof. path, Rush Med. Col, 95–, Chicago, 00–; director, Mem. Inst. for Infectious Diseases, 01–* Pathologist, Cook Co. Hosp, 89–03; coroner's physician, Cook Co, Ills, 90–94; lecturer path, Rush Med. Col, 90–92; prof. path, Col. Physicians and Surg, Chicago, 92–94; ed, 'Jour. of Infectious Diseases,' 04– Hon. A.M, Luther, 02. Soc. Nat; Ass. Path. and Bact. (pres, 02–03); Am. Physicians; Soc. Bact; Soc. Exp. Biol. and Med; Am. Med. Ass; Chicago Path. Soc. (pres, 89, 00–02). Pathological anatomy and bacteriology.—Scarlet fever.

Heller, A(mos) A(rthur), Los Gatos, Cal. *Botany.* Danville, Pa, March 21, 67. A.B, Franklin and Marshall, 92, A.M, 97. Field agent, U. S. Dept. Agr, 92; instr. bot, Minnesota, 96–98; in charge, Vanderbilt Exped. of N. Y. Bot. Garden, Puerto Rico, 98–99; *asst, Dept. Bot, Cal. Acad. Sciences, 05–* Torrey Bot. Club; Lancaster (Pa.). Linnean Soc. Systematic botany.—California flora, especially the genus Lupinus.

Hemmeter, Prof. John C(ohn), 1734 Linden Ave, Baltimore, Md. *Medicine.* Baltimore, April 25, 64. Gymnasium, Wiesbaden, 74–79; Baltimore City Col, 82; M.D, Maryland, 84; Ph.D, Hopkins, 90. Physician in charge, Bay View Asylum, Baltimore, 86–88; *prof. physiol, clin. prof. med. and director, Clin. Lab, Med. Dept, Maryland, 03–* Assoc. ed, 'Archiv für Verdauungs Krankheiten.' LL.D, St. John's (Md.), 05. Gastro-Enterol. Ass. (pres.); hon. mem. Tri-State Med. Soc; all medical societies of Baltimore and Maryland. Physiology and pathology of the digestive organs.—Malignant tumors of the digestive tract; tuberculosis of the human intestine; significance of ionic hypothesis for intestinal absorption.

Henchman, Miss Annie P(arker), 8 Frisbie Place, Cambridge, Mass. *Zoology, Embryology, Histology.* Jamaica Plain, March 22, 52. Radcliffe, 84–90. Teacher; substitute asst. in Dr. Mark's Lab. Soc. Nat; Soc. Zool. Nervous system of Limax maximus.

Henderson, Prof. Archibald, Box 93, Chapel Hill, N. C. *Mathematics.* Salisbury, N. C, June 17, 77. A.B, North Carolina, 98, A.M, 99, Ph.D, 01; Summer Sch, Chicago, 01, fellow, 02–03. Instr. *math, North Carolina,* 98–02, *assoc. prof, 02–* Twenty-seven lines upon a cubic surface. —Solid analytic geometry.

Henderson, Dr. C(harles) Hanford, Chesham, N. H. *Geology, Education.* Philadelphia, Pa, Dec. 30, 61. B.S, Pennsylvania, 82; Ph.D, Zürich, 92; Harvard, 97–98. Science teacher, Manual Training High Sch, Phila, 86–91; head master, N.E. Manual Training High Sch, Phila, 92–96; Chestnut Hill Acad, 96–97; lecturer, Harvard, 97–98; director, High Sch, Pratt Inst, 98–00. University extension lecturer; lecturer, Franklin Inst; dept. ed, 'Scientific Am,' 95–96; head master, Marienfeld Summer Camp, 96–02. Education; practical geology.

Henderson, Prof. E(rnest) N(orton), 391 Lafayette Ave, Brooklyn, N. Y. *Psychology.* La Salle Co, Ills, Dec. 17, 69. Ph.B, California, 90, A.B, 93, A.M, 94; Ph.D, Columbia, 03. Teaching fellow in philos, California, 92–95; principal, High Sch, Woodland, Cal, 95–97; instr. psychol, State Nor. Sch, Chico, Cal, 97–01; assoc. prof. pedag, *Adelphi,* 02–03, *prof. educ. and psychol, 03–* Memory for connected trains of thought.

Henderson, Prof. W(illiam) E(dwards), 182 W. Tenth Ave, Columbus, O. *Chemistry.* Wilkinsburgh, Pa, Jan. 29, 70. A.B, Wooster, 91, A.M, 94; fellow, Hopkins, 96–97, Ph.D, 97. Prof. *chem,* Ohio (Athens), 97–99; asst. prof, *Ohio State,* 99–01, *assoc. prof, 01–* F.A.A; Chem. Soc; Chem. Gesell. Chlorids of p-nitroorthosulphobenzoic acid; decomposition of diazo-compounds with sulphur dioxid.

Henderson, Dr. Yandell, Yale Medical School, New Haven, Conn. *Physiology.* Louisville, Ky,

April 23, 73. A.B, Yale, 95, Ph.D, 98; Marburg and Munich, 99–00. Asst. physiol. chem, *Yale*, 98–99, instr. *physiol, Med. Sch*, 00–02, *asst. prof, 02–* Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med. Nutrition; physiological chemistry.—Physiological action of proteid derivatives; metabolism in lymphatic leukaemia and in submaxillary gland; the proteid minimum; plethysmographic investigations.

Hendrickson, Prof. W(illiam) W(oodbury), 10 Naval Academy, Annapolis, Md. *Mathematics.* Mt. Joy, Pa, June 21, 44. Grad, U. S. Naval Acad, 63. Ensign, U. S. N, 63–65, master, 65–66, lieut, 66–68, lieut. commander, 68–73 (served in Lancaster, Portsmouth and Plymouth); prof. math. and head, Dept. Math, U. S. Naval Acad, 73–90; in 'Nautical Almanac' Office, 90–97; *prof. math. and head, Dept. Math, U. S. Naval Acad, 97–*

Hendrixson, Prof. W(alter) S(cott), Grinnell, Ia. *Chemistry.* Felicity, O, Jan. 11, 59. B.S, Union Christian Col, 82; A.M, Harvard, 89, Ph.D, 93; Berlin and Göttingen, 94–95. Instr, chem. and physics, Antioch, 83–88; asst, Harvard, 90; *prof. chem, Iowa (Grinnett), 90–* Assoc. prof. chem, Iowa, summer, 02. Chem. Soc; Chem. Gesell; Soc. chem. de Paris. Derivatives of pyromucic acid; electrolytic dissociation; oxygen acids of the halides.—Bromic acid.

Henmon, Dr. Vivian A(llen) C(harles), Columbia University, New York, N. Y. *Psychology.* Centralia, Wis, Nov. 27, 77. A.B, Bethany (Kas.), 95, A.M, 99; fellow, Columbia, 04–05, Ph.D, 05. Principal schools, Lincoln, Mo, 95–97; asst, Bethany (Kas.), 98, instr. pedag, 98–00, prof. pedag. and psychol, 00–05; *lecturer psychol, Columbia, 05–* Instr. psychol. and pedag, Teachers' Institutes, Kas, summers, 02–04. M.A.A; Psychol. Ass. The time of perception as a measure of differences in sensations.

Henry, Prof. A(lfred) J(udson), 1322 Columbia Road, Washington, D. C. *Meteorology.* New Bethlehem, Pa, Sept. 1, 58. Columbian, 85–86, 97–98. With Signal Corps, U. S. A, 78–91; chief, Div. Meteorol. Records, *U. S. Weather Bur*, 96–00, *prof. meteorol, 00–* F.A.A; Nat. Geog. Soc. Meteorological phenomena.—Weather forecasting from synoptic charts; climatology of the United States.

Henry, Prof. F(rederick) P(orteous), 1635 Locust St, Philadelphia, Pa. *Medicine.* Middlesex Co, N. J, July 21, 44. Princeton; Tours and Dresden; M.D, Columbia, 68. *Physician,* Hosp. of P. E. Church, Phila, 74–88; Jefferson Med. Col. Hosp, 88–92; *Phila. Hosp, 88–; consulting physician, Woman's Hosp, Phila, 91–; prof. principles and practise of med, Woman's Med. Col. of Pa.* Hon. A.M, Princeton, 91. Am. Physicians; Am. Med. Ass; Phila. Path. Soc. (pres, 87–89); Phila. Col. Physicians (hon. librarian, 90–); cor. mem. Rome Reale Accad. Med. Pathology, gross and microscopic; hematology; clinical medicine.

Henry, Prof. W(illiam) A(rnon), Agricultural Experiment Station, Madison, Wis. *Agriculture.* Norwalk, O, June 16, 50. Ohio Wesleyan, 68–69; B.Agr, Cornell, 80. *Prof.* bot. and agr, *Wisconsin,* 80–82, *agr, 83–, director, Agr. Exp. Sta, 87–, dean, Col. Agr, 92–* Assoc. ed, 'Hoard's Dairyman'; staff correspondent, 'Breeders' Gazette'; lecturer animal nutrition, California, 02. Hon. D.Agr, Illinois, 04; Sc.D, Vermont, 04. Animal nutrition and the rational feeding of live stock.

Henshaw, Henry W(etherbee), The Portner, Washington, D. C. *Biology.* Cambridge, Mass, March 4, 50. Cambridge pub. schools. With Wheeler Govt. Surv, 72–80; Bur. Am. Ethnol, Smithsonian Inst, 80–93; ed, 'Am. Anthropologist,' 89–93; *with Biol. Surv, U. S. Dept. Agr, 95–* Fel. Ornith. Union; Wash. Biol. Soc; Wash. Anthrop. Soc. Biology; ornithology; anthropology.

Henshaw, Samuel, 8 Fayerweather St, Cambridge, Mass. **Zoology.* Asst. entom. and librarian, *Mus. Comp. Zool, Harvard, curator, 04–* Soc. Nat; Soc. Zool; Entom. Soc; fel. Am. Acad. Entomology.

Herdman, Dr. W(illia)m J(ames), Hening Block, Ann Arbor, Mich. *Diseases of the nervous system, Electrotherapeutics.* Concord, O, Sept. 7, 48. Ph.B, Michigan, 72, M.D, 75. *Prof. diseases of the mind and nervous system, Michigan, 75–* Lecturer med. juris, Law Dept, Michigan. LL.D, Nashville. Am. Med. Ass. (past chairman, Sect. Neur. and Med. Juris.); Am. Med. Soc. (past chairman, Exec. Committee); Am. Acad. Med. (mem. Council); Electrotherapeut. Ass. (past pres.). Relation of electricity to physiological action; relation of nutritional disturbance to disease of the nervous system.—Radiant energy; nutritional disturbances of the nervous system.

Hering, Carl, 929 Chestnut St, Philadelphia, Pa. **Electrical engineering.* Philadelphia, March 29, 60. B.S, Pennsylvania, 80; Darmstadt, 83–84; M.E, Pennsylvania, 87. Instr. math, physics, eng. and elec, Pennsylvania, 81, 83; Polytech, Darmstadt, 84; Pennsylvania, 87; *consulting elec. engineer, 87–* Official delegate to international congresses; mem. Jury of Awards at nine expositions. Officier de l'Instruction Pub, 89; Chevalier Légion d'honneur, 01. Elec. Eng. (past pres.); Electrochem. Soc; Franklin Inst; Phila. Eng. Club (past pres.); hon. mem. N. Y. Elec. Soc; British Inst. Elec. Eng; Soc. Int. des Elec. Electrical engineering; electrochemistry.

Hering, Prof. D(aniel) W(ebster), New York University, New York, N. Y. **Physics, Mechanics.* Smithburg, Md, March 23, 50. Ph.B, Yale, 72; fellow, Hopkins, 76–78; C.E, Yale, 78. Asst. engineer, Reading and Lehigh R. R, 73–74; Baltimore and Cumberland Valley R. R, 78–80; *prof.* math, Western Maryland, 80–84; *physics,* Western Univ. of Pa, 84–85; *N. Y. Univ, 85–* Hon. Ph.D, Western Maryland, 95. M.A.A; Physical Soc; Social Sci. Ass; fel. N. Y. Acad;

Brooklyn Inst. (pres, Dept. Physics). Church acoustics; X-rays; compressed air.

Hering, Rudolph, 170 Broadway, New York, N. Y. *Hydraulic and sanitary engineering.* Philadelphia, Pa, Feb. 26, 47. Royal Polytech, Dresden, 67. Asst. engineer, Prospect Park, Brooklyn; Fairmount Park, Phila, 69–71; U. S. Geol. Surv, Yellowstone Park, 72; Dept. Pub. Works, Phila, 73–86; chief engineer, Drainage and Water Supply Commission, Chicago, 86–88; *consulting and constructing engineer for water supply and sewerage works, 88–* F.A.A; Civil Eng. (v. pres.); Pub. Health Ass. (v. pres.); Forestry Ass; Am. Water Works Ass; Franklin Inst; Phila. Eng. Club (pres.); Can. Soc. Civil Eng; British Inst. Civil Eng; Verein Ing. Water supply and purification; sewerage and sewage disposal; refuse disposal.

Hero, Prof. Ann, Tulane University, New Orleans, La. *Chemistry.* New Orleans, April 21, 75. A.B, Vassar, 96, A.M, 97. Instr. *chem,* Pratt Inst, 98–03; acting prof, *Tulane,* 04–05, *prof, 05–* Chem. Soc.

Herrick, Prof. C(harles) Judson, Denison University, Granville, O. **Comparative neurology.* Minneapolis, Minn, Oct. 6, 68. Denison, 86–89; B.S, Cincinnati, 91; M.S, Denison, 95; Ph.D, Columbia, 00. Instr. nat. science, Granville Acad, 91–92; *prof,* Ottawa (Kas.), 92–93; *zool, Denison, 98–* Managing ed, 'Jour. Comp. Neur,' 94–; assoc. comp. neur, Path. Inst, N. Y. State Lunacy Commission, 97–01. F.A.A. (sec'y, F, 03, 04); Soc. Nat; Ass. Anat; Soc. Zool. Comparative neurology, especially cranial nerves; the organs and sense of taste in fishes. —Comparative histology of the medulla oblongata.

Herrick, Prof. Francis H(obart), Adelbert College, Cleveland, O. **Zoology.* Woodstock, Vt, Nov. 19, 58. A.B, Dartmouth, 81; Ph.D, Hopkins, 88. Instr. *biol, Western Reserve,* 88–91, *prof, 91–* Hon. Sc.D, Western Univ. of Pa, 96. F.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist. Development and morphology of Crustacea; habits and instincts of birds.—Habits and instincts of wild birds; origin and development of instincts.

Herrick, Prof. Glenn W(ashington), Agricultural College, Miss. *Biology, Entomology.* Otto, N. Y, Jan. 5, 70. B.S.A, Cornell, 96; Harvard, 97. Teacher, pub. schools, 88–90; instr, Nat. Science Camp, Canandaigua, N. Y, 95–96; *prof. biol, Miss. Agr. Col, 97–* M.A.A; Nat. Geog. Soc; La. Nat. Hist. Soc; Wash. Biol. Soc. Life histories of mosquitoes of Mississippi; life histories of various insects.

Herrick, Dr. James B(ryan), 200 Ashland Boulevard, Chicago, Ills. *Medicine.* Oak Park, Ills, Aug. 11, 61. A.B, Michigan, 82; M.D, Rush Med. Col, 88. Interne, Cook Co. Hosp, 88–89; instr. *med, Rush Med. Col,* 90–94, adj. prof, 94–00, *prof, 00–* Attending physician, Cook Co. and Presbyterian Hospitals, Chicago. Am. Physicians; Ass. Path. and Bact; Am. Med. Ass; Ills. Med. Soc; Chicago Med. Soc. Medical diagnosis; clinical medicine.—Cytodiagnosis; diseases of the kidneys.

Herrick, Dr. Joseph C(awdell), St. Joseph's Seminary, Yonkers, N. Y. *Physiology.* Shelbyville, Ills, May 6, 74. A.B, Virginia, 96; fellow, Hopkins, 99–00, Ph.D, 00. Asst. biol, Virginia, 96–97; *instr. science, St. Joseph's Sem, 00–* Nervous conductivity.—Automatic action.

Herrmann, Richard, 1000 Main St, Dubuque, Ia. *Geology, Paleontology, Archeology, Ethnology.* Chemnitz, Germany, March 10, 49. Pub. schools and private study. *Civil engineer, Ills. Central R. R. Co.* F.A.A; Anthrop. Ass; Iowa Inst. Sci. and Art (sec'y, Geol. Sect.); Herrmann Mus. Nat. Hist. (founder). Geology of Iowa; mound-builders of the Mississippi Valley; North American Indians.

Hersam, Prof. E(rnest) A(lbion), Berkeley, Cal. *Chemistry, Metallurgy.* Stoneham, Mass, March 9, 68. B.S, Mass. Inst. Tech, 91. Asst. chem, Mass. Inst. Tech, 91–92; *metal, California,* 92–94, instr, 94–96, asst. prof, 96–02, *assoc. prof, 02–* Min. Eng; Soc. Chem. Indust. Metallurgy.—Metallurgy; geology.

Hershey, O(scar) H, Berkeley, Cal. *Geology.* Blue Rock, Pa, March 27, 74. High Sch. Field asst, U. S. Geol. Surv, 04; *examining mines, Nevada, 04–* Glacial geology of northwest Illinois and of the Klamath region of California; stratigraphic geology of northwest California. —The Quaternary and general stratigraphic geology of the Klamath region in California, particularly evidences of several glacial stages.

Herter, Dr. C(hristian) A(rchibald), 819 Madison Ave, New York, N. Y. **Pathology, Medicine.* Glenville, Conn, Sept. 3, 65. M.D, Columbia, 86. Visiting physician, N. Y. City Hosp, 94–04; *prof.* path. chem, Univ. and Bellevue Hosp. Med. Col, 97; *pharmacol. and therapeut, Columbia, 03–* F.A.A; Am. Physicians; Physiol. Soc; Soc. Exp. Biol. and Med; Neur. Soc; N. Y. Path. Soc; fel. N. Y. Acad; etc. Diagnosis of nervous diseases; chemical pathology; pathology of nutrition.

Herty, Dr. Cha(rle)s H(olmes), University of North Carolina, Chapel Hill, N. C. **Chemistry, Forestry.* Milledgeville, Ga, Dec. 4, 67. Ga. Mil. and Agr. Col, 80–84; Ph.B, Georgia, 86; Ph.D, Hopkins, 90; Berlin, 99; Zürich, 00. Asst. chemist, Ga. State Exp. Sta, 90–91; instr. chem, Georgia, 91–94, adj. prof, 94–02; collaborator, Bur. Forestry, U. S. Dept. Agr, 01–02, expert, 02–04; with Chattanooga Pottery Co, 04–05; *prof. chem, North Carolina, 05–* Physical director, Georgia, 93–99. F.A.A; Chem. Soc; Forestry Ass. (v. pres. for Fla.); Soc. Foresters; Chem. Gesell. Double halides; mixed double halides; constitution of inorganic compounds by physico-chemical methods.—A new method of turpentine orcharding.

Hertzler, Dr. Arthur E(manuel), 508 Altman Building, Kansas City, Mo. *Pathology.* West Point, Ia, July 26, 70. B.S, Southwest Kansas, 90; M.D, Northwestern, 94; Berlin, 99–02; Ph.D, Iowa Wesleyan, 02. *Prof. gen. and surg.*

path, Univ. Med. Col, 02– Ass. Anat; Micros. Soc; Am. Med. Ass; Am. Acad. Med; West. Surg. Ass. Anatomy and pathology of the peritoneum.—Peritoneal exudations in inflammation; pathology of ovaritis.

Herzog, Dr. Maximilian (Joseph), Government Laboratories, Manila, P. I. *Pathology, Bacteriology.* Frankfort-on-Main, Germany, Sept. 17, 58. Giessen, Strasburg and Marburg, 79–81; M.D, Med. Col. of Ohio, 90; Munich, Würzburg and Vienna, 91–92. Laryngologist and otologist, German Hosp, Cincinnati, 92–94; prof. path. and bacter, Chicago Polyclinic and Hosp, 96–04; *pathologist, Bur. Govt. Laboratories, Manila, P. I, 04–* Pathologist, German and Maurice Porter Hospitals; asst. prof. path, Rush Med. Col, winter, 01–02. Ass. Path. and Bact; Soc. Bact; Micros. Soc; Am. Med. Ass; Ills. Med. Soc; Chicago Med. Soc; Chicago Path. Soc. (pres, 02–03). Human placentation; ectopic gestation; etiology of tumors; enzymes; pancreas.—Bacteriology, pathology and etiology of bubonic plague; leprosy; beri-beri.

Hess, Frank L, U. S. Geological Survey, Washington, D. C. *Geology, Mining.* Streator, Ills, Sept. 4, 71. A.B, Stanford, 03. Asst. assaying, Stanford, 01–03; field asst, *U. S. Geol. Surv,* 01–03, *geol. aid, 04–* Nat. Geog. Soc; Wash. Geol. Soc; Geol. Soc. Am. Univ.

Hesse, Conrad E, 710 A St, S. E, Washington, D. C. *Meteorology.* Washington, Dec. 2, 66. B.S, Lehigh, 89. Mining engineer, 90–93; *clerk, U. S. Weather Bur, 96–* M.A.A; Min. Eng.

Hessler, Dr. John C(harles), 5756 Madison Ave, Chicago, Ills. *Chemistry.* Syracuse, N. Y, Nov. 27, 69. A.B, Chicago, 96, Ph.D, 99. *Instr.* science, Lake High Sch, Chicago, 90–92; *chem,* Hyde Park High Sch, Chicago, 92–99; *Chicago, 99–* Chem. Soc. Alkyl malonic nitriles and their derivatives; phenylmalonic nitrile.

Hewes, Prof. L(awrence) I(sley), Kingston, R. I. *Mathematics, Civil engineering.* Dover, N. H, Sept. 28, 76. B.S, Dartmouth, 98; Ph.D, Yale, 01. With Eng. Dept, Mass. Highway Commission, 97–99; asst. engineer, G. R. & I. St. R. R, Essex Co, Mass, 99; inspector macadam road construction, Brookline, Mass, 00; *prof. math, R. I. Col. Agr, 01–* Math. Soc. Macadam roads.—Path curves of continuous groups (Lie); number theory.

Hewitt, J(ohn) N(apoleon) B(rinton), 1333 F St, N. W, Washington, D. C. *Anthropology.* Lewiston, N. Y, Dec. 16, 59. Pub. schools. Amanuensis to Mrs. E. A. Smith, ethnologist, Jersey City, 79–85; with Adams Express Co, 85–86; *ethnologist, Bur. Am. Ethnol, 86–* Anthrop. Ass; Wash. Anthrop. Soc. Mythology, philology, sociology and sophiology of American Indians; anthropology.—Texts with interlinear translations on the above mentioned subjects in the Iroquoian dialects.

Hewitt, Dr. Peter Cooper, 11 Lexington Ave, New York, N. Y. **Electrical engineering.* New York, March 5, 61. Stevens; Columbia. *Mem. firm, Cooper, Hewitt and Co.* Engaged in experimental work. Hon. Sc.D, Columbia, 03. Physical Soc; Elec. Eng; N. Y. Elec. Soc; N. Y. Gen. Soc. Mech. and Tradesmen. Mechanics; physics; electricity.

Hewson, Dr. Addinell, 2120 Spruce St, Philadelphia, Pa. *Anatomy, Surgery.* Philadelphia, Sept. 2, 55. A.B, Pennsylvania, 76, A.M, 79; M.D, Jefferson Med. Col, 79. Junior asst. surg. clinic, Jefferson Med. Col, 79–85, asst. demonstrator anat, 79–86, prosector, 86–89, chief asst. surg. clinic, 89–95, demonstrator *anat,* 89–02; *prof, Phila. Polyclinic, 97–; asst. prof, Jefferson Med. Col, 02–* Dispensary surgeon, St. Mary's Hosp, 79–88; Episcopal Hosp, 88–05; surgeon, St. Timothy's Hosp, 95. Ass. Anat; Am. Med. Ass; Am. Acad. Surg; Path. and Obstet. Societies; Pa. State and Co. Med. Societies; fel. Phila. Col. Physicians.

Heyl, Dr. Paul R(enno), 408 Preston St, Philadelphia, Pa. *Physics.* Philadelphia, June 30, 72. B.S, Pennsylvania, 94, Tyndale fellow, 94–96, Harrison fellow, 97–98, Ph.D, 99. *Instr.* math, Clinton Liberal Inst, Fort Plain, N. Y, 96–97; physics and math, Boys' High Sch, Reading, Pa, 98–02; *physics, Central High Sch, Phila, 02–* Crystallization, under electrostatic stress, from a current-bearing electrolyte.—Heat capacity of a current-bearing conductor.

Hibben, Prof. John Grier, Princeton, N. J. *Philosophy.* Peoria, Ills, April 19, 61. A.B, Princeton, 82, A.M, 85, Theol. Sem, 86; Berlin, 82; Ph.D, Princeton, 93; Strasburg, 00. Minister, Presbyterian Church, Chambersburg, Pa, 87–91; instr. logic and psychol, *Princeton,* 91–93, asst. prof. *logic,* 93–97, *Stuart prof,* 97–Philos. Ass; Psychol. Ass.

Hice, Richard R(oberts), Beaver, Pa. *Geology.* Beaver, Aug. 19, 65. B.S, Geneva (Pa.), 86. M.A.A; Geol. Soc; Ceramic Soc. Preglacial drainage systems; glacial geology.—Preglacial drainage of western Pennsylvania.

Hidden, W(illia)m E(arl), 25 Orleans St, Newark, N. J. *Mineralogy.* Providence, R. I, Feb. 16, 53. Pub. schools. Mineral expert for T. A. Edison, 79; manager, various gem mines in N. C. and N. Mex, 80–82. N. Y. Acad; fel. London Geol. Soc. Discoveries of new minerals, mineral localities and of new or rare crystal planes.—The tracing of alluvial gem minerals to their origin and their probable environment at the time of crystallization, particularly of the ruby and rhodolite in North Carolina.

Higgins, J(ames) Edgar, Box 677, Honolulu, H. T. *Horticulture.* Wolfville, N. S, June 14, 73. A.B, Acadia, 95; diploma, N. S. Sch. of Hort, 95; M.S.A, Cornell, 98. In charge, Dept. Agr. and Nature-study, Honolulu Nor. Sch, 98–00; supervisor agr, pub. schools, Honolulu, 00–03; *horticulturist, Hawaii Exp. Sta, 03–* In charge, Hawaii Agr. Exhibit, La. Purchase Expos, 04. Soc. Hort. Sci; Pomol. Soc; Breeders' Ass. Tropical horticulture.—The mango.

Higginson, Dr. Thomas Wentworth, 29 Buckingham St, Cambridge, Mass. *Natural science, Literature.* Cambridge, Dec. 22, 23. A.B, Harvard, 41, A.M, 69. Col, First S. C. Vols, 62–64; mem. Mass. House of Representatives, 80–81; Mass. Board of Educ, 80–84. Cor. sec'y and curator entom, Harvard Nat. Hist. Soc, 40–41; mem. Exam. Committee in Math, Harvard, 41–42; chief of staff to Gov. Long; etc. LL.D, Harvard and Western Reserve. Fel. Am. Acad; New Eng. Hist. Geneal. Soc; Mass. Hist. Soc; Boston Soc. Nat. Hist; Cambridge (Mass.) Entom. Club. Flora of Boston and vicinity; memoir of Dr. Thaddeus William Harris.

Higley, Dr. George O(swin), 140 W. Lincoln Ave, Deleware, O. *Chemistry.* Near Columbus, O, Aug. 19, 58. B.S, Michigan, 91, M.S, 93, Ph.D, 05. Instr. gen. chem, Michigan, 91–05; *prof. chem, Ohio Wesleyan, 05–* Chem. Soc. The action of metals on nitric acid; the halides of chromium; a new chemograph and some of its applications.—The excretion of carbon dioxid resulting from bicycling.

Hilgard, Prof. E(ugene) W(oldemar), 2728 Bancroft Way, Berkeley, Cal. **Geology, Agricultural chemistry and physics.* Zweibrücken, Bavaria, Jan. 5, 33. Zürich, 49–51; Freiberg, 51–52; Ph.D, Heidelberg, 53. Chemist, Smithsonian Inst, 55–56; asst. state geologist, Miss, 56–57; lecturer chem, Nat. Med. Col, 57–58; state geologist, Miss, 58–72; *prof.* chem, Mississippi, 66–73; geol. and nat. hist, Michigan, 73–75; *agr, California, 75–; director, Agr. Exp. Sta, 88–* Special agent in charge reports on cotton production, Tenth Census, 79–83; asst. in charge, Agr. Div, Northern Transcont. Surv, 81–83; chairman, Committee on Agr. in Arid Region, 85. Liebig medal, Munich Acad, 94; diploma and gold medal, Paris Expos, 00; LL.D, Mississippi, 78; Michigan and Columbia, 87. Nat. Acad; F.A.A; Geol. Soc; Soc. Prom. Agr. Sci; Forestry Ass; Am. Acad; Am. Geog. Soc; Wash. Acad; Cal. Acad; cor. mem. St. Louis and New Orleans Academies. General, Cretaceous and Post-Cretaceous geology; physics and chemistry of soils; correlation of soils with native vegetation; estimation of soil values and adaptations.—Alkali soils; tolerance of alkali salts by plants; minimum of plant food in soils compatible with production; nitrification of unhumified vegetable matter.

Hill, Prof. Arthur E(dward), 66 Clinton Place, University Heights, New York, N. Y. *Chemistry.* Newark, N. J, March 20, 80. B.S, N. Y. Univ, 01, M.S, 03; Ph.D, Freiburg, 03. Instr, High Sch, Newark, N. J, 03–04; *chem, N. Y. Univ, 04–05, asst. prof, 05–* Chem. Soc. Aromatic aldehydes; sulphinic acids.—Influence of isomeric groups on the optical rotation of the asymmetric carbon atom.

Hill, Benj(amin) F(elix), 2106 Pearl St, Austin, Tex. *Geology, Petrography.* La Grange, Tex, Sept. 15, 75. B.S, Texas, 96, fellow, M.S, 97; A.M, Columbia, 98, fellow, 99–00. Asst, U. S. Geol. Surv, 98–99; New York State Mus, 99–00; asst. geologist, Univ. of Tex. Miner. Surv, 01–03, *instr. petrog. and miner, Texas, 03–* Tex. Acad. Economic geology and petrography.

Hill, Dr. Charles, Northwestern University Medical School, Chicago, Ills. *Histology, Embryology.* Leland, Ills, June 27, 62. Grad, Mt. Morris, 84; B.S, Michigan, 91, M.S, 92; Ph.D, Northwestern, 98, M.D, 02. Prof. zool, Washington (Seattle), 92–98; *asst. prof. histol. and embryol, Northwestern, 98–* Acting prof. zool, Northwestern, 02–03. Soc. Nat; Am. Med. Ass; Ills. Med. Soc; Chicago Med. Soc. Embryology; epiphyses; development of vertebrate head.

Hill, Eben C(harles), 2120 N. Charles St, Baltimore, Md. *Medicine.* Baltimore, Oct. 9, 80. A.B, Hopkins, 03, Med. Dept, 03–05; Freiburg, 04. F.A.A; Ass. Anat. Embryological development of the kidney and testis.—Descent of the testis.

Hill, Prof. Edwin A(llston), 1221 K St, N. W, Washington, D. C. *Chemistry, Civil engineering.* New York, N. Y, Jan. 18, 50. A.B, Yale, 75; Law Sch, Columbia, 76; M.S, Columbian, 01; A.M, Yale, 02; Ph.D, Columbian, 03. Lawyer, railway manager and civil engineer, 17 years; *asst. examiner, U. S. Patent Office, 00–;* instr. *chem, George Washington,* 01–05, *asst. prof, 05–* Private sec'y to three Commissioners of Patents; asst. receiver, asst. attorney, asst. supt, etc, in railway service. M.A.A; Chem. Soc; assoc. mem. Civil Eng; Nat. Geog. Soc; West. Soc. Civil Eng; Ills. and Conn. Engineers Societies; Wash. Micros. Soc; Postal Micros. Club. Engineering; chemistry; stereochemistry.—Physical chemistry.

Hill, Rev. E(llsworth) J(erome), 7100 Eggleston Ave, Chicago, Ills. *Botany.* Leroy, N. Y, Dec. 1, 33. Academies, 50–53; Union Theol. Sem, 60–63. Teacher, Miss, 55–58; pastor, Ills, 63–68; teacher, High Sch, Kankakee, Ills, 70–74; Englewood, Ills, 74–88. Soc. Nat; Torrey Bot. Club; Chicago Acad; Sullivant Moss Chapter; Davenport Acad. Ecological botany; Bryophyta; Pteridophyta.—Pteridophyta and Bryophyta of Chicago area.

Hill, Dr. G(eorge) W(illiam), West Nyack, N. Y. **Mathematical astronomy.* New York, N. Y, March 3, 38. A.B, Rutgers, 59. Damoiseau prize, Paris Acad; medal, Royal Astron. Soc; LL.D, Columbia and Princeton; hon. Sc.D, Cambridge; Ph.D, Rutgers. Nat. Acad; Astron. and Astrophys. Soc; Math. Soc. (past pres.); Philos. Soc; assoc. fel. Am. Acad; N. Y. Acad; for. assoc. Royal Astron. Soc; for. mem. Royal Soc; Cambridge (England) Philos. Soc; Manchester (England) Lit. and Philos. Soc; cor. mem. Paris Acad. Celestial mechanics.

Hill, Dr. Henry D(ickinson), New York Telephone Co, 15 Dey St, New York, N. Y. *Mathematical physics, Applied electricity.* Baltimore, Md, Sept. 9, 79. A.B, Hopkins, 00, Ph.D, 04. *With Eng. Dept, N. Y. Telephone Co, 04–* Physical Soc. Measurement of inductance capacity.

Hill, Prof. Herbert M(alcolm), 99 14th St, Buffalo,

N. Y. *Chemistry, Toxicology.* Burrs Mills, N. Y, May 19, 56. A.B, Hamilton, 79, A.M, 83, Ph.D, 90. *Prof.* science and math, High Sch, Watertown, N. Y, 80–89; *chem, toxicol. and physics,* Med. Dept, *Buffalo,* 89–90, *Dept. Pharmacy, 90–* Chemist, N. Y. State Dept. Agr, 83–89; Dept. Health, Buffalo, 92– Chem. Soc; Soc. Chem. Indust; Micros. Soc; West. N. Y. Chem. Soc. Analytical chemistry; action of poisons.

Hill, Dr. Hibbert Winslow, 820 Ninth Ave, S. E, Minneapolis, Minn. *Bacteriology, Hygiene.* St. John, N. B, Sept. 16, 71. M.B, Toronto, 93, George Brown scholar, 93–94; Hopkins, 95; M.D, Toronto, 99. Demonstrator bacter. and path, Toronto, 95; biologist and director, Brooklyn Water Lab, 96–98; director, Bacter. Lab, Boston Board of Health, 98–05; instr. *bacter,* Harvard, 03–05; *asst. prof, Minnesota, and asst. director, Minn. State Board of Health Lab, 05–* First. asst. bacteriologist, Louisville filtration experiments, and first asst, Phila. Board of Health Lab, 96; inspector, State Board of Health, N. Y, 96–98; managing ed, 'Am. Jour. Pub. Hygiene,' 04– Soc. Nat; Ass. Path. and Bact; Soc. Bact; Pub. Health Ass; fel. Mass. Med. Soc; Mass. Ass. Boards of Health; Toronto Path. Soc. (sec'y, 93–94); Boston Soc. Med. Sci. Bacteriology (water, diagnosis, methods, morphology).—Morphology of bacteria, especially of B. diphtheriae; value of disinfection and methods for same; milk.

Hill, Prof. John E(dward), Providence, R. I. *Civil engineering.* New York, N. Y, Nov. 9, 64. B.S, Rutgers, 84, M.S, 87, C.E, 92; M.C.E, Cornell, 95. Instr. *civil eng,* Cornell, 90–94; instr, later assoc. prof. and *prof, Brown, 94–* F.A.A; assoc. Civil Eng. Shades, shadows and perspective; sanitation.—Sanitation.

Hill, Prof. John E(than), Morgantown, W. Va. *Mathematics.* Mystic, Conn, Oct. 15, 64. Ph.B, Yale, 85; Ph.D, Clark, 95. Civil engineer, 85–90; *prof. math,* Highland Park, 90–92; Columbia, 95–98; *West Virginia, 98–* Asst. engineer, Bur. Pub. Works, N. Y. City. Math. Soc; Civil Eng. Surfaces of higher degrees; twisted curves.—Sextic surfaces; expansion of concrete.

Hill, John W(illmuth), Cincinnati, Ohio, and Philadelphia, Pa. *Civil and sanitary engineering.* Covington, Ky, Oct. 10, 48. Cincinnati pub. schools. Planned and constructed in whole or in part nearly sixty systems of public water supply in the United States; chief engineer, Bur. Filtration, Dept. Pub. Works, Phila, 81–05. Gold medal, Cincinnati Indust. Expos, 74. Civil Eng; Pub. Health Ass; Am. Water Works Ass; New Eng. Water Works Ass; Franklin Inst. Construction of works of public water supply; economy steam engines, boilers and feeds; value of water works properties and the recognition of dysentery; typhoid and allied public utilities; filtration of public water supplies; interpretation of analytical data pertaining to domestic water supplies.

Hill, Robert Thomas, Trinity Building, New York, N. Y. **Geology, Geography, Sociology.* Nashville, Tenn, Aug. 11, 58. B.S, Cornell, 86. Asst. paleontologist, U. S. Geol. Surv, 86–88, asst. geologist, 88–89; geologist, Ark. Geol. Surv, 89; prof. geol, Texas, 89–91; geologist, U. S. Geol. Surv, 89–04; cooperating with Prof. A. Agassiz in West Indian Exploration, 95. U. S. investigations of underground waters, 92; assoc. ed, 'American Geologist, 90–; lecturer, Michigan, 02. F.A.A; Geol. Soc; Geog. Ass; Min. Eng; Wash. Biol, Geol. and Philos. Societies; Texas Acad; Texas Hist. Soc; Southern Hist. Soc. The basic geology, paleontology, physiography, commercial and social geography of Spanish America, with reference to continental evolution.—Geology of the Mexican Plateau, including southwestern United States; geology of the Windward Islands.

Hillebrand, Prof. W(illiam) F(rancis), 506 T St, N. W, Washington, D. C. **Chemistry.* Honolulu, H. I, Dec. 12, 53. Cornell, 70–72; Heidelberg, 72–76, Ph.D, 75; Strasburg, 76–77; Freiberg, 77–78. *Chemist, U. S. Geol. Surv, 80–; prof. chem. and physics, Nat. Col. Pharmacy, 93–* Hon. Phar. D, Nat. Col. Pharmacy. F.A.A; Chem. Soc. (mem. Committee Papers and Pub, reviewer, 'Jour.'); hon. mem. Colo. Sci. Soc. Minerals, rocks and methods of analysis.

Hillig, Rev. Fred(erick) J(ohn), S.J, St. John's College, Toledo, O. *Physics, Physical chemistry.* Rengsdorf, Germany, May 30, 66. Royal Gymnasium, Coblenz, 76–83; Exaeten, Holland, 87–90; Harvard, 91; Ditton Hall, England, 94–95; Valkenberg, Holland, 95–99, Ph.D. *Prof.* science and higher math, Canisius Col, Buffalo, N. Y, 99–02; *physics and math, St. John's (Ohio), 02–* Asst. physics, Exaeten, Holland, 88–89. M.A.A; Ohio Acad; Buffalo Nat. Field Club. Wave theory; designed two instruments, one for measuring simple harmonic motion and one for demonstrating laws of undulation; apparatus for measuring density; electrical device for reading Fortin's barometer.—Electrolysis; amalgams; surface tension.

Hills, Director J(oseph) L(awrence), 59 N. Prospect St, Burlington, Vt. *Agricultural chemistry.* Boston, Mass, March 2, 61. B.S, Mass. Agr. Col. and Boston, 81. Asst. chem, Mass. Exp. Sta, 81–84; N. J. Exp. Sta, 84–85; chemist, *Vt. Exp. Sta,* 88–98, *director, 93–; prof. agr. chem, Vermont, 93–, dean, Dept. Agr, 98–* Chemist, New Eng. Internal Revenue Lab. for Sugar Bounty work, 92; mem. Vt. State Board Agr. and Cattle Commission, 92–00. Hon. Sc.D, Rutgers, 03. Soc. Prom. Agr. Sci; Ass. Agr. Col. (sec'y-treas.). Agricultural chemistry, particularly along dairying lines.

Hills, R(ichard) C(harles), Victor Fuel Co, Denver, Colo. *Geology, Natural science.* Ewhurst, Surrey, England, Feb. 5, 48. Private study. Geologist, Colo. Fuel and Iron Co, 84–04. Geologist, U. S. Geol. Surv, 94–98. Geol. Soc; Colo. Sci. Soc. (pres, 88, 90); fel. London Geol.

Soc. Geology; mineralogy; chemistry; orographic and structural features of Rocky Mountain geology; coal fields of the south central Rocky Mountains; Eocene of the Huerfano Basin, Colo.

Hillyer, Prof. H(omer) W(inthrop), 1811 Adams Ave, Madison, Wis. **Chemistry.* Waupun, Wis, Jan. 26, 59. Ripon, 78–79; B.S, Wisconsin, 82; Ph.D, Hopkins, 85. Asst. and instr. chem, later *asst. prof. org. chem, Wisconsin.* F.A.A; Chem. Soc. Derivatives of phenyl ether; phenox ozone compounds; aluminum alcoholates.—Derivatives of phenyl ether.

Hiltner, R(obert) S(ilver), 1488 Chapin St, Washington, D. C. *Chemistry.* Lincoln, Nebr, June 12, 73. B.S, Nebraska, 94, fellow, 94–96, A.M, 96. Asst. chemist, Nebr. Exp. Sta, 96–98; instr. chem, Nebraska, 98–03; *chemist, Office Supervising Architect, Treasury Dept, 03–* Chemist, Am. Beet Sugar Co, Chino, Cal, summer, 02. Chem. Soc. (sec'y and treas, Nebr. Sect, 00–); Ass. Off. Agr. Chemists; Soc. Testing Materials. Sugar analysis; mineral chemistry; technical chemistry.

Himes, Prof. Charles F(rancis), Carlisle, Pa. *Physics.* Lancaster Co, Pa, June 2, 38. A.B, Dickinson, 55, A.M, 58; Giessen, 64–65. Teacher in several seminaries; prof. math, Troy Univ, 60–63; chem. and physics, Dickinson, 65–84, physics, 84–96. Assoc. ed, 'Photog. Archiv,' 64–70; scientific publications of Harper Bros, 72–79. Hon. Ph.D, De Pauw; LL.D, Dickinson. F.A.A; Philos. Soc; hon. mem. Franklin Inst; N. Y. Acad; Md. Acad; Pa. Hist. Soc; Phila. Photog. Soc. Chemistry and physics of photography; binocular vision; total solar eclipses; educational appliances; historical investigations.

Hinds, Prof. J(ohn) I(redelle) D(illard), University of Nashville, Nashville, Tenn. *Chemistry.* Guilford Co, N. C, Dec. 13, 47. A.B, A.M, C.E, Cumberland, 73; Berlin, 80; Harvard, 82. *Prof.* physical science, Cumberland, 73–00; *chem, Nashville, 00–* Teacher, summer schools and supt. of platform, Monteagle Assembly, 91–96. Hon. Ph.D, Lincoln; LL.D, Cumberland. Chem. Soc; Chem. Gesell. Inorganic chemistry; chemistry by observation, experiment and induction; photometric analysis.

Hinds, Dr. W(arren) E(lmer), U. S. Department of Agriculture, Washington, D. C. *Entomology.* Townsend, Mass, Sept. 20, 76. B.S, Boston, 99; Ph.D, Mass. Agr. Col, 02. *Asst, Bur. Entom, U. S. Dept. Agr, 02–, special field agent, 02–* Lecturer entom, Summer Sch, Md. Agr. Col, 02. M.A.A; Ass. Econ. Entom; Wash. Entom. Soc. The Thysanoptera of North America.—The Mexican cotton boll-weevil in Texas.

Hine, Prof. Ja(me)s S(tewart), 1340 Hunter St, Columbus, O. *Zoology.* Wauseon, O, June 13, 66. B.S, Ohio State, 93. Instr. entom, *Ohio State,* 94–96, asst. prof, 96–02, *assoc. prof. zool. and entom, 02–* Ed, 'Ohio Naturalist.' F.A.A; assoc. Ornith. Union; Ass. Econ. Entom. Panorpidae of North America; Diptera.—North American Tabanidae.

Hinman, Dr. Alice H(amlin), 2510 T St, Lincoln, Nebr. *Psychology.* Constantinople, Turkey, Dec. 20, 69. A.B, Wellesley, 93; Ph.D, Cornell, 97. Teacher, Abbot Acad, Andover, Mass, 90–92; prof. *psychol,* Mt. Holyoke, 97; instr, *Nebraska,* 98–99, *lecturer, 02–* Lecturer, Teachers Institutes, Nebr. and S. Dak. West. Philos. Ass. Attention; rhythm; hypnotism; memory span in infancy.—Memory span in infancy and early childhood; development of voluntary attention in the years from one to five.

Hinman, Prof. Edgar L(enderson), 2510 T St, Lincoln, Nebr. *Philosophy.* Afton, N. Y, Sept. 5, 72. A.B, Cornell, 92, Ph.D, 95. Fellow and asst, California, 95–96; instr. *philos, Nebraska,* 96–97, adj. prof, 97–02, asst. prof, 02–04, *assoc. prof, 04–* M.A.A; West. Philos. Ass. Metaphysics; logic.

Hinrichs, Dr. Gustavus (Detlef), 4106 Shenandoah Ave, St. Louis, Mo. **Chemistry.* Lunden, Germany, Dec. 2, 36. Copenhagen, 53–61. *Prof.* physical science, Iowa, 62–86; *chem,* Col. Pharmacy, St. Louis, 89–03; *Med. Dept, St. Louis, 03–* F.A.A. Molecular mechanics with cosmical and other applications.

Hiss, Dr. P(hilip) Hanson, Jr, 437 W. 59th St, New York, N. Y. *Bacteriology, Pathology.* Baltimore, Md, Sept. 17, 68. A.B, Hopkins, 91; M.D, Columbia, 95, Alumni Ass. fellow, 95–96, Clark scholar, 99–00. Asst. bacter, *Columbia,* 95–99, instr. hygiene and bacter, 99–03, *adj. prof. bacter, 03–* Asst. bacteriologist, Dept. Health, N. Y, 96–99; prof. hygiene, Woman's Med. Col, N. Y, 98–99. F.A.A; Soc. Nat; Ass. Path. and Bact; Soc. Bact; Soc. Exp. Biol. and Med; Pub. Health Ass; N. Y. Path. Soc; Harvey Soc. Differentiation of typhoid and colon bacilli; method of isolation of typhoid bacilli; bacteriology of typhoid fever; relation of serum-globulin and diphtheritic antitoxin; pneumococcus and streptococcus differentiation and capsule staining methods; bacilli; etc.—Micrococcus intracellularis meningitidis; differentiation of streptococci; typhoid toxins.

Hitchcock, Prof. A(lbert) S(pear), 3363 16th St, N. W, Washington, D. C. **Botany, Agrostology.* Owosso, Mich, Sept. 4, 65. B.S.A, Iowa State, 84, M.S, 86. Asst. chem, Iowa State, 85; instr, Iowa, 86–89; bot. asst, Mo. Bot. Garden, 89–91; prof. bot, Kas. State Agr. Col, 92–01; asst. agrostologist, *U. S. Dept. Agr,* 01–05, *systematic agrostologist, 05–* F.A.A. (sec'y, G, 01); Bot. Soc; Soc. Prom. Agr. Sci; Nat. Geog. Soc; Wash. Bot. Soc; Wash. Biol. Soc; Kas. Acad; St. Louis Acad; Acad. Int. Géog. Bot. Taxonomy of grasses.

Hitchcock, Prof. C(harles) H(enry), Hanover, N. H. **Geology.* Amherst, Mass, Aug. 23, 36. A.B, Amherst, 56, A.M, 59; Andover Theol. Sem, 60–61; Royal Sch. of Mines, London, 66. Asst. state geologist, Vt, 57–61; state geologist, Me, 61–62; N. H, 68–78; *prof. geol, Dartmouth, 68–* Instr. zool, Amherst, 58–63; geol, Lafayette, 67–70; Mt. Holyoke, 70–01;

Williams, 81; Va. Agr. and Mech. Col, 82. Hon. Ph.D, Lafayette, 70; LL.D, Amherst, 96. Mem. Int. Cong. Geol, 77– F.A.A. (v. pres, 83); Geol. Soc. (v. pres, 96); Philos. Soc; Appalachian Mt. Club; Sci. Societies of Portland (Me.), Boston, N. Y. City, Phila, Wash, St. Louis and Vienna. Ichnology; geology of northern New England; geological maps of United States; surface geology; geology of the Hawaiian Islands.—Ichnology; geology and surface geology of northern New England; Hawaiian geology.

Hitchcock, Prof. Edward, Amherst College, Mass. *Physical education, Anthropometry.* Amherst, May 23, 28. A.B, A.M, Amherst, 49; M.D, Harvard, 53. *Prof. physical educ. and hygiene, Amherst, 61–, dean, Col. Faculty, 99–* Mem. State Board of Health, Lunacy and Charity, Mass, 79– LL.D, Amherst, 99. Geology; anatomy and physical measurements of the human body; North American Indians; archeology.

Hitchcock, Prof. E(dward), Jr, Moore's Brook, Charlottesville, Va. *Hygiene, Physical culture.* Stratford, Conn, Sept. 1, 54. A.B, Amherst, 78, A.M, 81; M.D, Dartmouth, 81; Bellevue Med. Col. Instr. physical culture and elocution, Amherst, 81–84; prof. hygiene and physical culture, Cornell, 84–03. Instr. elocution, Mass. Agr. Col, 82–83. Ass. Adv. Physical Educ. (v. pres.); Physical Educ. Soc. (v. pres.); Am. Acad. Med. (v. pres.); Mass. Med. Soc; Tompkins Co. (N. Y.) Med. Soc. Physical measurements.—Vital statistics.

Hitchcock, Dr. Fanny R(ysam) M(ulford), 4038 Walnut St, Philadelphia, Pa. *Biology, Chemistry.* Brooklyn, N. Y, Feb. 7, 51. Ph.D, Pennsylvania, 94. M.A.A; Chem. Soc; Math. Soc; Torrey Bot. Club; fel. N. Y. Acad. Effect of high temperature on minerals.—Chemistry of iron ores; origin of disease in the pineapple plant.

Hitchcock, Frank H(arris), Cosmos Club, Washington, D. C. *Economics.* Amherst, O, Oct. 5, 67. A.B, Harvard, 91; LL.B, Columbian, 94, LL.M, 95. Asst. biologist, U. S. Dept. Agr, 92–93, librarian, Div. Statistics, 93–94, asst. chief, Div. Foreign Markets, 95–96, chief, 97–02; chief clerk, Dept. Commerce and Labor, 02–04; asst. sec'y, Republican Nat. Committee, 04; sec'y, Inaugural Committee, 05; *first asst. postmaster general, 05–* Mem. Govt. Board, Lewis and Clark Expos, 04–05. F.A.A. (sec'y, I, 03); Statist. Ass; Econ. Ass; Wash. Econ. Ass. Agricultural import and export trade of the United States; customs tariffs of all countries.

Hitchcock, Prof. Geo(rge) G(ale), Claremont, Cal. *Physics, Physical chemistry.* Galesburg, Ills, April 24, 61. A.B, Nebraska, 83; Hopkins, 84–85. *Prof.* nat. science, Pierre, 85–92; chem, Wash. Agr. Col, 91–93; *physics and chem, Pomona, 93–* Physical Soc; Electrochem. Soc; Eng. and Archit. Ass. of S. Cal.

Hitchcock, Prof. Romyn, 20 Broad St, New York, N. Y. *Chemistry.* St. Louis, Mo, Dec. 1, 51. Cornell, 68–71; Sch. of Mines, Columbia, 72. Asst. chem, Lehigh, 74–76; prof, Chicago, 77–78; curator, U. S. Nat. Mus, 83–89; prof. chem, Osaka, Japan, 86–89; *consulting chemist, 89–* Abstracter for 'Am. Chemist,' 72–76; ed, 'Am. Micros. Jour,' 78–97; judge of awards, London Fisheries Exhib; Columbian Expos, 93; U. S. Commissioner to China and expert on Pa. Commission for State Mining Exhibit, Columbian Expos, 93; in charge photography, U. S. Eclipse Exped, Japan. F.A.A. (sec'y, F, 84); Chem. Soc. N. Y. Acad; hon. mem. N. Y. Micros. Soc. Chemical technology; utilization of fuel; photographic chemistry; action of light on silver haloids; ethnology and exploration in Japan and China.

Hitchens, Dr. Arthur P(arker), Glenolden, Pa. *Bacteriology.* Delmar, Del, Sept. 14, 77. Temple Col; M.D, Medico-Chirurg. Col, Phila, 98. Instr. path. and bacter, Medico-Chirurg. Col, Phila, 00–01; *bacteriologist, Antitoxin Lab, Glenolden, 01–* Soc. Bact; Am. Med. Ass; Phila. Path. Soc; Northwest Med. Soc. of Phila. (pres, 05). Bacterial toxins and antisera.

Hitz, John, 1601 35th St, N. W, Washington, D. C. *Philosophy, Civics, Pedagogics.* Davos, Switzerland, Sept. 14, 28. Private schools. Consul gen. of Switzerland at Washington, D. C, 64–82; *supt, Volta Bur, Washington, D. C, 90–* Pres, philanthropic societies, banks and insurance companies, 53–82; Swiss commissioner, Centennial Expos, 76; trustee, pub. schools, 64–65. Empress Augusta medal, 84. M.A.A; Nat. Educ. Ass; Soc. Foresters; Nat. Geog. Soc; Am. Ass. to Promote Teaching Speech to Deaf; Wash. Soc. Philos. Inquiry; Wash. Anthrop. Soc; Schweiz. Forstverein; Graubünden Naturforsch. Gesell. Cosmology; ethics; pedagogy; international statistics of the deaf.—Pedagogy as applied to defectives.

Hoadley, Prof. Geo(rge) A(rthur), Walnut Lane, Swarthmore, Pa. *Physics.* Sheffield, Mass, Dec. 2, 48. A.B, C.E, Union, 74, A.M, 77. Principal, Acad, Argyle, N. Y, 74–79; union sch, Fort Edward, N. Y, 79–83; pub. schools, Florence, Mass, 83–86; Northampton, 86–88; *prof. physics, Swarthmore, 88–* Mem. Jury of Awards, Elec. Sect, Phila. Export Expos, 00. F.A.A; Physical Soc; Elec. Eng; Franklin Inst. Physics; practical measurements in magnetism and electricity.

Hoag, Prof. W(illia)m R(icketson), 1516 Seventh St, S. E, Minneapolis, Minn. *Civil engineering.* Sumner, Fillmore Co, Minn, Feb. 27, 59. C.E, Minnesota, 83; Cornell, 87. Instr. *civil eng, Minnesota,* 84–86, asst. prof. and later *prof, 86–* Res. engineer, North. Pacific R. R, 80–84; acting asst, U. S. Geol. Surv, 88–95; topographer, Minn. Geol. and Nat. Hist. Surv. Minn. Surv. and Eng; Minneapolis Eng. Club (pres, 04). Geodesy; topography; good roads.

Hobbs, Dr. G(lenn) M(oody), University of Chicago, Chicago, Ills. *Physics.* Yorkville, Ills,

Aug. 17, 70. B.L, Illinois, 92; Ph.D, Chicago, 05. Asst, Lab, Illinois, 92; *Chicago*, 92–94, tutor *physics*, 94–96, asst, 97–98, assoc, 98–01, *instr, 01–* Spark potential and mean free path; repetition of experiment on Newton's law of gravitation by method of interference measurement.

Hobbs, Prof. W(illia)m H(erbert), Madison, Wis. **Geology, Mineralogy, Petrology.* Worcester, Mass, July 2, 64. B.S, Worcester, 83; fellow, Hopkins, 87–88, A.M, Ph.D, 88; Heidelberg, 89. Instr. miner. and metal, *Wisconsin*, 89–91, asst. prof. miner. and petrog, 91–00, *prof. miner. and petrol, 00–* Ed, Dept. Miner, 'Am. Naturalist,' 94–95; asst. geologist, U. S. Geol. Surv, 96– F.A.A. (sec'y, E, 93); Geol. Soc; Wis. Acad. (sec'y, 92–94). Structural geology; mineralogy; petrology.—Geology of southwest Massachusetts and Connecticut.

Hodenpyl, Dr. Eugene, 16 W. 52d St, New York, N. Y. *Pathology.* Plainfield, N. J, Dec. 10, 63. M.D, Columbia, 85. House physician, St. Francis Hosp, N. Y; adj. prof. path. anat, Columbia, and pathologist, Roosevelt and St. Francis Hospitals, N. Y, 89–03. Pathologist, Methodist Hosp, Brooklyn, 87–90. Alumni prize, Col. Physicians and Surg, Columbia, and Joseph Mather prize, 90. Ass. Path. and Bact; N. Y. Acad. Med; N. Y. Path. Soc. Tuberculosis of the pleura; typhoid fever; absence of the spleen; anatomy and physiology of the tonsils; actinomycosis of the lungs; action of dead tubercle bacilli.—Diseases of the stomach.

Hodge, Prof. C(lifton) F(remont), 3 Charlotte St, Worcester, Mass. **Biology, Neurology.* Janesville, Wis, Oct. 16, 59. A.B, Ripon, 82; fellow, Hopkins, 88–89, Ph.D, 89; fellow, Clark, 89–91. Asst. neur, Clark, 89–91; instr. biol, Wisconsin, 91–92; *asst. prof. physiol. and neur, Clark, 92–, prof. biol, Col. Dept, 02–* Soc. Nat; Physiol. Soc; assoc. Ornith. Union; Forestry Ass; Mass. Forestry Ass; Mass. Audubon Soc. (mem. Board Directors). Nature study and life; physiology of nerve cells; fatigue; rest; changes due to old age; physiological action of alcohol.—Physiology of living nerve cells, daily life and rhythms of rest and activity in animals; dynamics of a series of animal species.

Hodge, Prof. Frederick H(umbert), 919 Main St, Worcester, Mass. *Mathematics.* Ofallon, Ills, Dec. 10, 70. A.B, Boston, 94; Chicago, 96–97; Clark, 97–99, fellow, 98–99; A.M, Boston, 99; fellow, Clark, 01–03, hon. fellow, 03–04. Prof. *math*, J. B. Stetson, 95–96; Bethel, 99–01; instr, *Col. Dept, Clark*, 02–05, *asst. prof, 05–* M.A.A; Math. Soc.

Hodge, Frederick W(ebb), Garrett Park, Md. **Anthropology.* Plymouth, England, Oct. 28, 64. Columbian, 85–86. Law and publishing office, 79–84; stenographer, U. S. Geol. Surv, 84–86; sec'y, Hemenway Archeol. Exped, 86–89; ethnologist, ed. and librarian, Bur. Am. Ethnol, 89–01; asst. in charge of office and acting curator, Int. Exchanges, Smithsonian Inst, 01–05; *ethnologist, Bur. Am. Ethnol, 05–* Editor-in-chief, 'Am. Anthropologist.' F.A.A; Anthrop. Ass. (councilor, ed.); Folk-lore Soc; Am. Hist. Ass; Explorers' Club; Landmarks Club; Sequoya League; Wash. Acad; Wash. Anthrop. Soc. (curator, mem. Board of Managers and of Ed. Board); Tex. Hist. Ass; hon. mem. Quivira Hist. Soc; Columbia Hist. Soc. Ethnology of the Pueblo tribes of New Mexico; ethnological and historical annotation of early Spanish accounts of southwestern tribes; bibliography of the Pueblo Indians.

Hodgkins, Prof. H(oward) L(incoln), 1830 T St, Washington, D. C. *Physics.* Elgin, Ills, Jan. 23, 62. A.M, Columbian, 83, Ph.D, 92. Tutor math, *George Washington*, 83, adj. prof, 84–87, prof, 87–03, dean, Scientific Sch, 97–03, *head prof. physics, 03–* Special computer, 'Nautical Almanac' Office, 82–92; dean, Columbian, 00–02. F.A.A; Math. Soc; Physical Soc; Wash. Philos. Soc. Optics.

Hoffman, Prof. Frank Sargent, 2 College Grounds, Schenectady, N. Y. *Psychology, Logic, Philosophy.* Sheboygan Falls, Wis, Feb. 9, 52. Knox, 70–72; A.B, Amherst, 76; B.D, Yale, 80, Hooker fellow, 80; Berlin and Heidelberg, 82–83; A.M, Amherst, 84, Ph.D, 96. Principal, Grammar Sch, Galesburg, Ills, 72–73, asst. principal, High Sch, 73–74; instr. Greek and Latin, High Sch, Princeton, Ills, 76–77; *philos*, Wesleyan, 83–85; *prof, Union, 85–* M.A.A; Soc. Nat; Philos. Ass; Psychol. Ass; Acad. Polit. and Social Sci; Soc. Psychical Research. Psychology; logic; the secondary self.—Hallucinations; telepathy.

Hoffman, Samuel V(erplanck), Morristown, N. J. *Astrophysics.* Brooklyn, N. Y, May 12, 66. M.E, Stevens, 88; fellow, Hopkins, 93. M.A.A; Astron. and Astrophys. Soc; Physical Soc; N. Y. Hist. Soc. (pres.); fel. Royal Astron. Soc. Spectra of the stars; curves of electromotive force in alternating dynamo.

Hoffmann, Dr. G(eorge) Christian, Geological Survey of Canada, Ottawa, Can. *Chemistry, Mineralogy.* London, England, June 7, 37. Royal Sch. of Mines, London; Royal Col. Chem, London. Junior asst, Royal Col. Chem; asst, research lab. of Prof. A. W. von Hofmann; scientific asst. to supt. gen. of educ, Natal, S. Africa, 61–64; in charge, Phyto-chem. Lab, Melbourne Bot. Garden, Australia, 65–71; asst. chemist and mineralogist, *Can. Geol. Surv*, 72–79, acting chemist and mineralogist, 79–80, *chemist and mineralogist, 80–, asst. director, 83–* Curator, Miner. and Lithol. Sect, Mus, Can. Geol. Surv. LL.D, Queen's (Can.), 95. Fel. Can. Royal Soc; hon. mem. Quebec Pharmaceut. Ass; fel. Inst. Chem. of Gt. Britain and Ireland; Miner. Soc. of Gt. Britain and Ireland. Chemistry; mineralogy.

Hoffmann, Ralph, Belmont, Mass. *Ornithology, Botany.* Stockbridge, Mass, Nov. 30, 70. A.B, Harvard, 94. *Teacher, Browne and Nichols Sch, Cambridge, Mass, 91–* Teacher, Alstead Summer Sch. of Nat. Hist, 99–04. Mem.

Ornith. Union; New Eng. Bot. Club. Distribution and habits of New England birds.—Flora of Berkshire County, Mass.

Hofman, Dr. H(einrich) O(scar), 88 Robinwood Ave, Jamaica Plain, Mass. *Metallurgy.* Heidelberg, Germany, Aug. 13, 52. Heidelberg, 71–73; E.M, Met. E, Royal Sch. of Mines, Clausthal, 77; Ph.D, Ohio (Athens), 89. Practising metallurgist, 77–87; lecturer, Mass. Inst. Tech, 87–88; prof. metal and assaying, Dak. Sch. of Mines, 87–89; asst. prof. mining and metal, *Mass. Inst. Tech,* 89–91, assoc. prof, 91–98, *prof. metal, 98–* Min. Eng. (manager, 95–97); Eng. Educ; fel. Am. Acad. Metallurgical chemistry.—Eutectics in ferrocalcic silicates.

Holden, Dr. Edward S(ingleton), U. S. Military Academy, West Point, N. Y. **Astronomy.* St. Louis, Mo, Nov. 5, 46. B.S, Washington (St. Louis), 66; grad, U. S. Mil. Acad, 70; A.M, Washington (St. Louis), 79. Lieut. of arty, U. S. A, 70–71, lieut. of engineers, 71–73; prof. math, U. S. N, 73–82; director, Washburn Observatory, 81–85; pres, California, 85–88; director, Lick Observatory, 88–98; *librarian, U. S. Mil. Acad, 01–* Mem. Board of Visitors, U. S. Mil. Acad, 85; U. S. Naval Acad, 96. Knight-commander Ernestine Order, Saxony, 94; Order of Bolivar, 96; Knight Royal Order of Danebrog, Denmark, 95; LL.D, Wisconsin, 87; Columbia, 88; hon. Sc.D, Pacific, 96. Nat. Acad; Philos. Soc; Am. Acad; assoc. Royal Astron. Soc; Soc. astron. de France; Soc. Ital. di Spettroscop. Positions of standard stars; brightness and figures of nebulae; lunar photography; astronomical and other bibliography.

Holder, Cha(rle)s F(rederick), 475 Bellefontaine Drive, Pasadena, Cal. *Zoology, Archeology.* Lynn, Mass, Aug. 5, 51. U. S. Naval Acad, 69–71. Asst. curator, Am. Mus. Nat. Hist, 71–75; prof. zool, Throop, 88. Cor. mem. N. Y. Linnean Soc; fel. N. Y. Acad; Pasadena Acad. (pres.). General zoology; archeology of the Pacific Coast islands; animal phosphorescence. —Archeology of the Pacific Coast islands.

Holferty, Dr. G(eorge) M(ellinger), Central High School, St. Louis, Mo. *Botany, Geology.* Cazenovia, Ills, Nov. 17, 59. B.S, Wisconsin, 93; Leipzig, 94–95; M.S, Cincinnati, 97; Ph.D, Chicago, 03. Principal, High Sch, Oconto, Wis, 87–90; asst, Biol. Lab, Wisconsin, 93–94; *instr.* biol, Cincinnati, 95–99; *bot,* Illinois, 00–01; Chicago, 01–03; *Central High Sch, St. Louis, 03–* F.A.A; Soc. Nat; Bot. Cent. States. Botany; root pressure and its transformation into work effects; ovule and embryo of Potamogeton natans.—Archegonium of the Bryophyta.

Holgate, Prof. Thomas F(ranklin), 617 Library St, Evanston, Ills. **Mathematics.* Hastings Co, Ont, April 8, 59. A.B, Victoria, 84, A.M, 89; fellow, Clark, 90–93, Ph.D, 93. Master math, Albert, 84–90; instr, *Northwestern,* 93–94, *prof.* applied math, 94–05, *math, 05–, dean of Col, 02–, acting pres, 04–* LL.D, Illinois, 05. Math. Soc. (sec'y, Chicago Sect, 97–). Ruled surfaces of the fourth order.

Holland, Dr. W(illiam) J(acob), Fifth and Bellefield Avenues, Pittsburg, Pa. **Zoology, Museum administration.* Bethany, Jamaica, W. I, Aug. 16, 48. Grad, Moravian Col. and Theol. Sem, Bethlehem, Pa, 67; A.B, Amherst, 69; med. student under preceptor, 69–71; Princeton Theol. Sem, 74. Principal, High Sch, Amherst, Mass, 64–70; Westborough, Mass, 70–71; pastor, 74–91; prof. Latin, Pa. Col. for Women, 77–79; chancellor, Western Univ. of Pa, 91–01, prof. polit. econ. and int. law, 92–97, lecturer zool, 95–99; *director, Carnegie Mus, Pittsburg, 98–* Naturalist, U. S. Eclipse Exped. to Japan, 87, to Africa, 89; director, Sch. of Design for Women, Pittsburg, 83–; trustee, Pa. Col. for Women, 74–; Western Theol. Sem. (v. pres, 80–); Western Univ. of Pa, 88–; Washington and Jefferson, 89–91; Carnegie Library, Pittsburg, 89–90; Carnegie Inst, 96–01; mem. Pa. Col. and Univ. Council, 95–01. Hon. Ph.D, Washington and Jefferson, 86; D.D, Amherst, 88; LL.D, Dickinson, 96; N. Y. Univ, 97; Sc.D, Washington and Jefferson, 02; LL.D, St. Andrew's, 05. F.A.A; Phila. Acad; Wash. Entom. Soc; cor. mem. N. Y. Entom. Soc; W. Pa. Entom. Soc. (pres.); Cambridge Entom. Club (pres, 89); Col. Ass. Middle States and Md. (pres, 96); Pa. Hist. Soc; Moravian Hist. Soc; London Zool. Soc; fel. London Entom. Soc; Soc. entom. de France; Entom. Gesell. Iris; hon. mem. Swedish Soc. Anthrop. and Geog. Entomology; paleontology; ornithology; history; archeology; museum administration.—Avi-fauna of East Africa; Lepidoptera of Colombia, South America, of North America, tropical West Africa and Malaysia; museum administration.

Hollick, Dr. (Charles) Arthur, N. Y. Botanical Garden, Bronx Park, New York, N. Y. **Geology, Paleobotany.* New Brighton, N. Y, Feb. 6, 57. Ph.B, Columbia, 79; Ph.D, Columbian, 97. Private asst. to Prof. J. S. Newberry, Dept. Geol, Columbia, 81–91, asst. geol, Columbia, 91–92, tutor, 93–00; *asst. curator, Dept. Fossil Bot, N. Y. Bot. Garden, 01–* With U. S. Geol. Surv. and N. Y, N. J, Md. and La. State Geol. Surveys, 81–; mem. Board of Health, New Brighton, 86–92; mem. and pres, Boulevard Commission, Port Richmond, N. Y, 96; mem. and v. pres, Park Commission, Richmond Co, N. Y, 97–00, pres, 01–04. F.A.A. (sec'y, E, 99, mem. Council, 01); Geol. Soc; Bot. Soc. (treas, 96–); fel. N. Y. Acad; Torrey Bot. Club (sec'y, 83–88); Staten Isl. Nat. Sci. Ass. (sec'y, 81–). Ecology; paleobotany; Miocene and Pleistocene floras of Maryland.—Miocene flora of New Jersey; Cretaceous flora of New Jersey, Staten Island, Long Island, Block Island and Marthas Vineyard.

Hollis, Dr. Frederick S(tearns), 29 Norton St, New Haven, Conn. *Chemistry, Bacteriology, Microscopy.* Dedham, Mass, Aug. 26, 67. B.S, Mass. Inst. Tech, 90; Ph.D, Hopkins, 96. Asst. chemist, Boston Water Board, 90–93, chemist and biologist in charge of Lab, 96–98; Mass. Metrop. Water Board, 98–00; *instr. chem, Med. Sch, Yale, and asst. chemist and biologist, State*

Board of Health, Conn, 00– Examiner of water supply of Reading, Pa; of Loraine, Ohio, for Ohio State Board of Health. Chem. Soc; Micros. Soc; Pub. Health Ass; New Eng. Water Works Ass; Chem. Gesell. Methods of sanitary, chemical and biological examination of water; microscopic organisms and their influence on the character of water.—Neutral red test for bacillus coli; gas ratio for bacillus coli under varying conditions; application of copper sulphate method for removal of microorganisms from water supplies.

Hollis, Prof. Ira N(elson), Cambridge, Mass. *Marine engineering.* Mooresville, Ind, March 7, 56. Grad, U. S. Naval Acad, 78. Asst. engineer, U. S. N, 80–89, past asst. engineer, 89–93; *prof. eng, Harvard, 93–* Hon. A.M, Harvard; L.H.D, Union, 99. Naval Eng; Naval Archit. and Marine Eng; Mech. Eng; Eng. Educ; Am. Acad; Boston Soc. Civil Eng. Naval history; marine engineering.

Holm, Dr. (Herman) Theo(dor), 1432 Providence St, Brookland, D. C. **Botany.* Copenhagen, Denmark, Feb. 3, 54. Grad, Copenhagen, 80; Ph.D, Catholic, 02. Naturalist, Danish North Pole Exped, 81–82; Danish Exped. to Greenland, 84–86; asst. botanist, U. S. Nat. Mus, 88–93; U. S. Dept. Agr, 93–96. Danish, Swedish, French, German and Canadian scientific societies. Anatomy and morphology of phanerogams.

Holmes, Prof. Joseph A(ustin), U. S. Geological Survey, Washington, D. C. **Geology.* Laurens, S. C, Nov. 23, 59. B.S, Cornell, 81. Prof. *geol. and nat. hist, North Carolina,* 81–91, *lecturer, 91–; state geologist, N. C, 91–; fuel testing expert, U. S. Geol. Surv, 05–* Chief, Dept. Mines and Metal, La. Purchase Expos, 04; special asst, U. S. Geol. Surv; special agent, U. S. Dept. Agr. F.A.A. (v. pres. 02); Geol. Soc; Min. Eng; N. C. Acad; Wash. Acad; St. Louis Acad. Coastal plain geology in the Carolinas; geological occurrence and electric properties of mica; chemical and physical properties of coal; the testing of structural materials.

Holmes, Dr. Mary E(milée), 201 S. First St, Rockford, Ills. *Paleontology, Zoology.* Chester, O, April 10, 49. A.B, Rockford, 68; A.M, Michigan, 87, Ph.D, 88. Instr. nat. sciences, Manitowoc, Wis, 69–70; prof, Rockford, 71–82; *pres, Presb. Home Mission Soc, Freeport Presbytery, Ills, and sec'y, Synodical Home Mission Soc, 83–* Ed. and propr, 'Freedmen's Bul,' 85– Geol. Soc. Brachiopoda.—Botany; nature study.

Holmes, Dr. S(amuel) J(ackson), Ann Arbor, Mich. **Zoology.* Henry, Ills, March 7, 68. B.S, California, 93, M.S, 94; Ph.D, Chicago, 97. Teacher, High Sch, San Diego, Cal, 98–99; *instr. zool, Michigan, 99–* Instr. embryol, Woods Hole. F.A.A; Soc. Nat; Cal. Acad. Crustacea; embryology of the Mollusca; animal behavior.—The reaction of animals to light.

Holmes, Prof. W(illiam) H(enry), 1444 Belmont St, Washington, D. C. **Anthropology.* Harrison Co, O, Dec. 1, 46. B.S, McNeely Nor. Col, Ohio, 70. Instr. physical geog. and nat. hist, McNeely Nor. Col, 71; asst, U. S. Geol. Surv. of Territories, 72, asst. geologist, 75–79; U. S. Geol. Surv, 80–88; archeologist, Bur. Am. Ethnol, 88–94; curator, Dept. Anthrop, Field Columbian Mus, 94–97; prof. anthropic geol, Chicago, 94–97; head curator, Dept. Anthrop, U. S. Nat. Mus, 97–02; *chief, Bur. Am. Ethnol, 02–; hon. curator, Div. Prehist. Archeol, U. S. Nat. Mus, 03–* In charge, govt. exhibits, Centennial Expos, 76; Columbian, 93; Omaha, 98; Pan-Am, 00; Charleston, 01; La. Purchase, 04. Loubat prize, 98. Int. Cong. Americanists (v. pres, 04–). Nat. Acad; F.A.A. (sec'y, H, 91, v. pres, 92); Anthrop. Ass. (v. pres, 02–); Nat. Geog. Soc; Philos. Soc; Wash. Acad. (v. pres, 00–02); Wash. Anthrop. Soc. (pres, 00–02). Geology; archeology; ethnology; esthetics.

Holmes, Dr. Willis B(oit), University of Chicago, Chicago, Ills. *Chemistry.* Cambridge, Mass, Sept. 27, 73. A.B, Harvard, 96, A.M, 97; Ph.D, Hopkins, 99. Asst. chem, Harvard, 96–97; instr. *chem,* Mass. Inst. Tech, 00; asst. instr, *Chicago,* 00–03, *assoc. instr, 03–* Isomeric chlorids of orthosulphobenzoic acid.—Sulphur and calomel.

Holt, Prof. Edwin B(issell), Harvard Psychological Laboratory, Cambridge, Mass. *Psychology.* Winchester, Mass, Aug. 21, 73. A.B, Harvard, 96; A.M, Columbia, 00; Ph.D, Harvard, 01. Instr. *psychol, Harvard,* 01–05, *asst. prof, 05–* Psychol. Ass. Phototactic response; visual anesthesia.—Recurrent vision.

Holt, Dr. L(uther) Emmett, 14 W. 55th St, New York, N. Y. **Diseases of children.* Webster, N. Y, March 4, 55. A.B, Rochester, 75, A.M, 78; M.D, Columbia, 80. *Prof. diseases of children,* N. Y. Polyclinic, 93–00; *Columbia, 02–* Director and sec'y, Rockefeller Inst. for Med. Research, 01; attending physician, Babies' Hosp. and N. Y. Foundling Hosp. LL.D, Rochester, 02; hon. Sc.D, Columbia, 04. Am. Physicians; Ass. Path. and Bact; Pediat. Soc. (pres, 98); N. Y. Acad. Med. Diseases of children.

Holway, Prof. E(dward) W(illet) D(orlard), University of Minnesota, Minneapolis, Minn. *Botany.* Adrian, Mich, Feb. 13, 53. *Asst. prof. bot, Minnesota, 04–* Mycol. Soc. Uredineae.

Hood, Prof. O(zni) P(orter), Hubbel Ave, Houghton, Mich. *Mechanical engineering.* Lowell, Mass, June 14, 65. Worcester, 82–83; B.S, Rose, 85, M.S, 95, M.E, 98. *Prof.* mech. eng, Kas. State Agr. Col, 86–98; *mech. and elec. eng, Mich. Col. Mines, 98–* Consulting engineer. M.A.A; Mech. Eng; Min. Eng; Eng. Educ; Lake Superior Min. Inst. Pumping machinery; windmills; steam boilers.—An unusual type of steam boiler.

Hook, Edw(ard) A(lfred), Columbia University, New York, N. Y. *Mathematics.* Oak Creek, Wis, Jan. 18, 78. B.S, Wisconsin, 00, M.S, 01;

Harvard, 01–03, A.M, 02. *Tutor math, Columbia, 03–* Math. Soc; Wis. Acad. Partial differential equations; theory of numbers.—Green's functions for certain partial differential equations.

Hooker, Prof. H(enrietta) E(dgecomb), South Hadley, Mass. *Botany.* Gardiner, Me, Dec. 12, 51. Mt. Holyoke; Syracuse; Woods Hole; Mass. Inst. Tech; Berlin; Ph.D, Syracuse, 89. Teacher, pub. schools, 69–70; Acad, W. Charleston, Vt, 70–71; *prof. bot, Mt. Holyoke, 73–* M.A.A; Torrey Bot. Club; Int. Ass. Bot. Botany; historical sketches of Mt. Holyoke College; morphology of Cuscuta.—Embryology of Cuscuta.

Hooker, Dr. Samuel C(ox), 4422 Chestnut St, Philadelphia, Pa. *Chemistry.* Brenchley, England, April, 64. Nor. Sch. of Science and Royal Sch. of Mines, London, 81–84; Ph.D, Munich, 85. *Chemist and tech. expert,* Franklin Sug. Ref, Phila, 85–92; *Am. Sug. Ref. Co, N. J, 92–* Chemist, Platinotype Co, London, 83. Chem. Soc; Franklin Inst; London Chem. Soc; Chem. Gesell. Organic chemistry.—Technical chemistry.

Hooper, Dr. Everett (Dennison), Warren Chambers, Boston, Mass. *Chemistry.* Riverdale, Mass, Sept. 16, 68. A.M, Tufts, 88; M.D, Col. Physicians and Surg, Boston, 91; Ph.D, Harvard, 05. *Prof. chem, Col. Physicians and Surg, Boston, 93–* Instr. chem, Tech. Dept, Tufts, 97; asst. surgeon, U. S. A, 98; mem. Mass. Board of Health. Chem. Soc. Clinical technique; albumen compounds.—Albumen compounds.

Hooper, Prof. Franklin W(illiam), 71 St. James Place, Brooklyn, N. Y. *Zoology, Geology.* Walpole, N. H, Feb. 11, 51. A.B, Harvard, 75, A.M, 98. Principal, High Sch, Keene, N. H, 77–80; prof. geol. and zool, Adelphi, 80–89; *director, Brooklyn Inst, 89–* Mem. Board of Educ, Brooklyn, 91–98; treas, New Eng. Soc. of Brooklyn, 92–; director, Brooklyn Art. Ass, 93–; mem. Board of Directors, Brooklyn Pub. Library, 96–04; pres, Board of Trustees, Antioch. M.A.A; N. Y. Acad. Algae; glacial geology.

Hooper, Prof. W(illia)m L(eslie), Tufts College, Mass. *Electrical engineering.* Halifax, N. S, Aug. 2, 55. A.B, Tufts, 77, A.M, 78. Instr, Bromfield Acad, 78–80, principal, 80–82; asst. prof. physics, *Tufts,* 83–89, *prof. elec. eng, 89–* Hon. Ph.D, Tufts, 98. Fel. Am. Acad. Electricity.—Insulation at high (10,000 to 50,000) voltages.

Hoopes, Josiah, West Chester, Pa. *Botany, Ornithology.* West Chester, Nov. 9, 32. Friends Central High Sch, Phila. Founder and *senior mem, Maple Ave. Nurseries, West Chester, 53–* Trustee, West Chester Nor. Sch; mem. Jury of Awards, Centennial Expos, 76. Assoc. Ornith. Union; Phila. Acad; Pa. Hort. Ass. (pres, 69–79); various horticultural societies; Rio de Janeiro Asoc. Auxil. da Indust. Nacional. Coniferae; sexes in plants; land birds of North America.—Hybridization in garden flora.

Hopkins, Dr. A(ndrew) D(elmar), Bureau of Entomology, U. S. Department of Agriculture, Washington, D. C. *Entomology.* Jackson Co, W. Va, Aug. 20, 57. Ph.D, West Virginia, 93. Special agent entom, W. Va. Agr. Exp. Sta, 90–91, entomologist, 91–02; prof. econ. entom, West Virginia, 96–02; v. director, W. Va. Agr. Exp. Sta, 97–02; *special agent in charge of forest insect investigations, Bur. Entom, U. S. Dept. Agr, 02–* F.A.A; Ass. Econ. Entom. (v. pres, 01, pres, 02); Soc. Prom. Agr. Sci; Forestry Ass; Ohio Acad; Wash. Entom. Soc. (v. pres, 05); Wash. Biol. Soc; Wash. Acad. Forest insects; Scolytidae of the world.

Hopkins, Prof. Arthur John, Amherst, Mass. *Chemistry.* Bridgewater, Mass, Sept. 20, 64. A.B, Amherst, 85; fellow, Hopkins, 92, Ph.D, 93. Teacher, Mass. pub. schools, 85–88; science, Peekskill Mil. Acad, N. Y, 88–90; prof. *chem,* Westminster (Pa.), 93–94; asst. prof, *Amherst, 94–95, assoc. prof, 95–* F.A.A; Chem. Soc; Johns Hopkins Chem. Soc. (first pres.). Bronzing methods in alchemistic Leyden papyri; a dissolver; control of size of crystals; action of manganese dioxid on potassium permanganate.—History of alchemy; preparation of standard solutions by direct dilution; thermostat for a laboratory; instrument for calibration; purification of mercury; amorphous arsenic; ammonia in water analysis; non-existence of copper hydroxid; action of zinc on copper sulphate.

Hopkins, Dr. Cyril G(eorge), 1001 S. Wright St, Champaign, Ills. *Agronomy, Chemistry.* Near Chatfield, Minn, July 22, 66. B.S, S. Dak. Agr. Col, 90; M.S, Cornell, 94, Ph.D, 98; Göttingen, 99–00. Asst. chem, S. Dak. Agr. Col. and Exp. Sta, 90–92; Cornell, 92–93; acting prof. pharmacy, S. Dak. Agr. Col, 93–94; *chemist, Ills. Exp. Sta, 94–; prof. agron, Illinois, 00–* Chem. Soc; Ass. Off. Agr. Chemists. Chemistry of corn; corn breeding for improvement in composition.—Corn breeding; soils.

Hopkins, Dr. G(rant) S(herman), Ithaca, N. Y. *Anatomy.* Westfield, N. Y, Sept. 23, 65. B.S, Cornell, 89, Sc.D, 93; D.V.M, N. Y. State Vet. Col, 00. Instr. histol. and embryol, *Cornell,* 89–96, asst. prof. anatomical methods and comp. vet. anat, 96–03, *prof. vet. anat, 03–* F.A.A; Ass. Anat; N. Y. State Vet. Med. Soc. Comparative and veterinary anatomy.

Hopkins, Dr. Nevil Monroe, Metropolitan Club, Washington, D. C. *Chemistry, Physics.* Portland, Me, Sept. 15, 73. Harvard, 97; B.S, Columbian, 99, M.S, 00, Ph.D, 02. Asst. *chem, George Washington,* 99–00, instr. and later *asst. prof, 00–* Electrician, Gen. Elec. Co, Schenectady, N. Y; electrician and physicist, Smithsonian Inst. John Scott medal, Franklin Inst, 00. F.A.A; Chem. Soc; Elec. Eng; Electrochem. Soc. Electrochemistry; thermochemistry; chemical physics.—Properties and deportment of ions; electrolytic con-

duction; physical and chemical study of electrolytes and non-electrolytes; alternating electric currents with change in frequency applied to electrolytes; induction and magnetic phenomena.

Hopkins, Prof. Sam(ue)l A(ugustus), 235 Marlboro St, Boston, Mass. *Bacteriology.* Jersey City, N. J, Sept. 12, 58. Iowa (Grinnell); M.D, Columbia, 80; D.D.S, N. Y. Col. Dentistry, 82. *Prof. theory and practise of dentistry, Tufts, 02–* Ass. Path. and Bact; Boston Soc. Med. Sci; N. Y. Inst. of Stomat. Bacteriology of the mouth; saliva changes.—Variations of virulence of pathogenic mouth bacteria under different conditions in the human mouth.

Hopkins, Prof. T(homas) C(ramer), Syracuse University, Syracuse, N. Y. *Geology.* Center Co, Pa, May 4, 61. B.S, De Pauw, 87; A.M, Stanford, 92; Ph.D, Chicago, 00. Asst. prof. *geol,* Pa. State, 96–99; *prof, Syracuse, 00–* Asst. geologist, Ark. Geol. Surv, 89–92; Ind. Geol. Surv, 95, 96, 01; field geologist for various corporations. F.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc. Building stones, clays, and iron ores.—Areal geology of Syracuse and vicinity.

Hormell, Prof. Will(iam) G(arfield), 268 N. Sandusky St, Delaware, O. *Physics.* Oakland, O, July 19, 61. B.S, Ohio Nor. Sch, 80; A.B, Ohio Wesleyan, 89, B.S, 90; A.M, Harvard, 92, grad. student, 92–93; Ph.D, Ohio Wesleyan, 94; Harvard, 00–01. Teacher, pub. sch, 80–83; instr. math. and physics, Ohio Wesleyan, 89–91; asst. *physics, Harvard,* 92–93; *prof, Ohio Wesleyan, 94–* M.A.A. Dielectric constant of paraffins for short electric waves.

Horn, Dr. David Wilbur, Carlisle, Pa. *Chemistry.* Carlisle, May 7, 77. A.B, Dickinson, 97, A.M, 98; Ph.D, Hopkins, 00. Asst. quant. anal, Hopkins, 00–01; *assoc. chem, Bryn Mawr, 01–* Chem. Soc; Chem. Gesell. Action of carbon dioxid on borates of barium; preparation of osmotic pressure membranes by electrolysis.—Ammonia compounds of copper sulphate; properties of precipitated barium sulphate.

Hornaday, Director William T(emple), 2969 Decatur Ave, Bedford Park, N. Y. *Zoology, Zoological park administration.* Plainfield, Ind, Dec. 1, 54. Iowa State, 74. Collecting naturalist, Ward's Nat. Sci. Establishment, 75–79; chief taxidermist, U. S. Nat. Mus, 82–90; supt, Nat. Zool. Park, 89–90; *director, N. Y. Zool. Park, 96–* Three medals, Soc. Am. Taxidermists. N. Y. Zool. Soc; N. Y. Acad; hon. mem. Phila. Zool. Soc; cor. mem. London Zool. Soc. Scientific taxidermy; the American bison; quadrupeds of North America; mountain sheep of North America; destruction of bird life; acclimatization of mammals in North America.—Methods for introduction of natural history studies into grammar, high and normal schools.

Horne, Prof. H(erman) H(arrell), Hanover, N. H. *Philosophy, Psychology, Pedagogy.* Clayton, N. C, Nov. 22, 74. A.B, A.M, North Carolina, 95; A.M, Harvard, 97, Ph.D, 99. Instr. mod. languages, North Carolina, 94–96; philos, *Dartmouth,* 99–00, asst. prof. philos. and pedag, 00–05, *prof. philos, 05–* Lecturer, Summer Sch, Dartmouth, 01–03; North Carolina, 03; Summer Sch. of Theol, Harvard, 03; Summer Inst, Marthas Vineyard, 02–04. Philos. Ass. The philosophy of education; the problem of sin.—Application of psychology to education.

Horne, Dr. W(illiam) D(odge), 175 Park Ave, Yonkers, N. Y. *Chemistry.* Williamsburg, N. Y, Jan. 25, 65. Ph.B, Columbia, 86, Ph.D, 94. *Chemist, various sugar refining companies, 86–* Instr. chem, Columbia, 87; Rutgers, 89; consulting chemist and bacteriologist to various companies and boards. Chem. Soc; Soc. Chem. Indust; Ass. Chim. de Suc. et de Dist. de France. Sugar manufacturing and refining.

Horne, W(illia)m T(itus), Estacion Central Agronómica, Santiago de las Vegas, Cuba. *Vegetable pathology.* Kankakee, Ills, Nov. 8, 76. B.S, Nebraska, 98; fellow, Columbia, 03–04. Instr. bot, Nebr. Wesleyan, 98–00; Sch. Agr, Nebraska, 99–00; *ayudante patologista, Estacion Central Agronómica, 04–* Univ. of Nebr. Bot. Seminar. Diseases of tropical plants.

Horsford, Miss Cornelia (Conway Felton), 27 Craigie St, Cambridge, Mass. *Archeology.* Cambridge, Sept. 25, 61. Private schools. Pres, Shelter Isl. Pub. Library. F.A.A; Folk-lore Soc; Nat. Geog. Soc; Irish Texts Soc; Icelandic Antiq. Soc; Prince Hist. Soc; London Viking Club (hon. v. pres.). Norse archeology.

Hortvet, Julius, 313 16th Ave, S. E, Minneapolis, Minn. *Chemistry.* Baraboo, Wis, April 24, 63. B.S, Wisconsin, 86; Minnesota, 92. City supt. schools, Red Lake Falls, Minn, 89–91; teacher physics and chem, E. High Sch, Minneapolis, 92–00; *state chemist, Dairy and Food Dept, Minn, 00–* M.A.A; Chem. Soc; Ass. Off. Agr. Chemists. Physics; chemical composition of maple syrup and sugar.—Sorghum syrups and sorghum mixtures; linseed oil and its adulterants.

Hoskins, William, 49 Sixth Ave, La Grange, Ills. *Chemistry.* Covington, Ky, 63. Chicago High Sch; private instruction. *Mem. firm of Mariner and Hoskins, Chicago, 80–* F.A.A; Chem. Soc. (past v. pres, past chairman, Chicago Sect.); Soc. Chem. Indust; Electrochem. Soc; Min. Eng; Micros. Soc; West. Soc. Eng; Franklin Inst; Chicago Acad. Utilization of gasoline for heating purposes; wood pulp.

Hoskins, Dr. W(illiam) Horace, 3314 Powelton Ave, West Philadelphia, Pa. *Veterinary jurisprudence.* Rockdale, Pa, July 23, 60. D.V.S, Am. Vet. Col. of N. Y, 81. *Lecturer juris, ethics and business methods, Vet. Dept, Pennsylvania, 97–* Ed, 'Jour. Comp. Med. and Vet. Archives,' 94– Vet. Med. Ass; Pub. Health Ass; Pa. Vet. Med. Ass; Keystone Med. Ass; hon. mem. N. J. Vet. Med. Ass; N. Y. Co. Vet. Med. Ass. Veterinary jurisprudence of foreign countries.

Hosmer, Sidney, 74 Bay State Road, Boston, Mass. *Electrical engineering.* London, England, July 13, 71. A.B, Yale, 92. Elec. engineer, Boston Elec. Limited Co, 94–01; *supt. installation, Edison Elec. Illuminating Co, Boston, 01–* Connected with power plant, Columbian Expos, Chicago, 93. M.A.A, Elec. Eng; Mech. Eng; Boston Soc. Civil Eng.

Hotchkiss, H(omer) J(ames), Drexel Institute, 32d and Chestnut Sts, Philadelphia, Pa. *Physics.* Mosiertown, Pa, March 1, 60. B.S, Northern Ind. Nor. Sch, 84; C.E, Allegheny, 88, A.B, 89, A.M, 92; M.M.E, Cornell, 96. Instr. math, Madisonville Nor, Ky, 86; Harper Nor, Kas, 87; math. and chem, Westminster (Pa.), 89; asst. instr. *physics,* Cornell, 90–93, instr, 93–03; *prof, Drexel Inst, 03–* M.A.A; Physical Soc; Nat. Geog. Soc. Curve tracing galvanometers.—Counter electromotive force of arc; carbon-aluminum cells.

Hottes, Prof. Cha(rle)s F(rederick), 915 W. California Ave, Urbana, Ills. *Botany.* Mascoutah, Ills, July 8, 70. B.S, Illinois, 94, fellow, 94–95, M.S, 95; Ph.D, Bonn, 01. Asst. *bot, Illinois,* 95–98, instr, 01–02, *asst. prof, 02–* M.A.A; Soc. Nat; Breeders' Ass. Physiology of the vegetable cell.—Cytology of Mimosa.

Hough, Prof. G(eorge) W(ashington), Evanston, Ills. **Astronomy.* Tribes Hill, N. Y, Oct. 24, 36. A.M, Union, 56. Astronomer, Cincinnati Observatory, 59–60; Dudley Observatory, 60–63, *director,* 63–74; *Dearborn Observatory, 79–; prof. astron,* Chicago, 79–87; *Northwestern, 87–* Medals for instruments of precision; LL.D, Union. F.A.A. (v. pres, 02); Astron. and Astrophys. Soc; cor. mem. Philos. Soc; Tex. Acad; Chicago Acad; Buffalo Hist. Soc; British Astron. Ass; assoc. mem. Royal Astron. Soc. Discovery and measurement of double stars; observations on Jupiter; astronomical, meteorological and physical instruments.—Double stars; Jupiter; occultations.

Hough, Dr. Theodore, Simmons College, Boston, Mass. **Biology.* Front Royal, Va, 65. A.B, Hopkins, 86, Ph.D, 93. Instr, McDonogh Sch, Md, 86–89; *biol,* Mass. Inst. Tech, 93–95, asst. prof, 96–03; *assoc. prof, Simmons, 03–* Instr. physiol. and personal hygiene, Boston Nor. Sch. of Gymnastics. F.A.A; Soc. Nat; Physiol. Soc; Am. Acad; Boston Soc. Nat. Hist; Boston Soc. Med. Sci. Vagus inhibition of the heart; ergographic studies in fatigue and soreness; effect of temperature changes upon cutaneous capillary pressure.—Comparison of results obtained with the weight and with the spring in ergographic work.

Hough, Dr. Walter, 3308 14th St, N. W, Washington, D. C. *Anthropology.* Morgantown, W. Va, April 23, 59. W. Va. Agr. Col, 73; A.B, West Virginia, 83, A.M, 84, Ph.D, 94. Aid, *Dept. Ethnol, U. S. Nat. Mus,* 86–94, *asst. curator, 94–* Mem. commission to Hist. Expos, Madrid, 92–93. Knight of Isabella, Spain, 93. F.A.A; Folk-lore Soc; Wash. Anthrop. Soc. (sec'y); cor. mem. Soc. d'Anthrop. de Paris; Swedish Soc. Anthrop. and Geog. Aboriginal fire-making; Eskimo lamps; history of illumination; primitive aboriginal armor; Hopi ethnobotany and pigments; Korean ethnography.—Primitive heating and illumination; Pueblo region of Arizona; Hopi foodstuffs.

Houghton, Dr. E(lijah) M(ark), 130 Longfellow Ave, Detroit, Mich. *Pharmacology, Bacteriology.* Antwerp, N. Y, April 29, 67. Ph.C, Michigan, 93, M.D, 94. Asst. pharmacol, Michigan, 94–95; *director, Biol. Dept, Parke Davis and Co, Detroit, 95–; special lecturer, Dept. Med, Michigan, 02–* Lecturer exp. pharmacol, Detroit Col. Med, 96–01. M.A.A; Soc. Bact; Physiol. Soc; Am. Physicians; Am. Med. Ass; Pharmaceut. Ass; Miss. Valley Med. Ass; Mich. Med. Ass; Wayne Co. Med. Soc. Localization of strychnin tetanus; ergot aseptic; pharmacologic assay of the heart tonics; pharmacology and pharmacologic assay of active principles of suprarenal glands; pharmacology and therapeutics of chloretone and brometone; preparation of the antitoxins; aseptic preparations of digitalis, ergot, veratrum viridi.—Antidysenteric serum; rabies; purgatives; hypnotics.

Houser, Prof. Gilbert L(ogan), 430 Iowa Ave, Iowa City, Ia. **Biology.* Lee Co, Ia, July 9, 66. B.S, Iowa, 91, M.S, 92; Ph.D, Hopkins, 01. Instr. biol, *Iowa,* 92–95, asst. prof, 95–97, *prof.* animal morph. and physiol, 97–05, *animal biol, 05–* Mem. Iowa Geol. Surv; collaborator, 'Am. Jour. Anat.' and 'Jour. Applied Micros.' M.A.A; Soc. Nat; Soc. Zool; Iowa Acad. Neurones of selachian brain; intracellular canaliculi of the liver; methods for the microscopical study of the nervous system; the animal cell.—Architecture of the nervous system of lower vertebrates; experimental biology; cellular biology.

Houston, Prof. Edwin J(ames), 1809 Spring Garden St, Philadelphia, Pa. *Physics, Electrical engineering.* Alexandria, Va, July 9, 44. A.B, A.M, Central High Sch, Phila, 64. *Emer. prof. nat. philos. and physical geog, Central High Sch, Phila; prof. physics,* Franklin Inst; *Medico-Chirurg. Col, Phila, 01–; elec. expert and consulting elec. engineer.* Mem. U. S. Elec. Commission and chief electrician, Int. Elec. Exhib, Phila, 84; pres, Sect. C, Elec. Cong, Chicago, 93. Hon. Ph.D, Princeton. Elec. Eng. (past pres.); Min. Eng; Electrotherap. Soc; Philos. Soc; Am. Hist. Ass; N. Y. Elec. Soc; Franklin Inst. (first pres, Elec. Sect.); Phila. Acad. Electricity and magnetism; geographical physics; lexicography; one of the inventors of the Thomson-Houston system of electric lighting.

Hovey, Dr. E(dmund) O(tis), American Museum of Natural History, New York, N. Y. *Geology.* New Haven, Conn, Sept. 15, 62. A.B, Yale, 84, Ph.D, 89; Heidelberg, 90–91. Principal schools, Janesville, Minn, 84–85; Elk River, Minn, 85–86; asst, Miner. Lab, Sheffield Sci. Sch, Yale, 86–87; asst. principal, High Sch, Waterbury, Conn, 88–91, principal, 91–92; supt, Mo. Miner.

Exhib, Columbian Expos, 92–93; asst. curator, *Geol. Dept, Am. Mus. Nat. Hist*, 94–00, *assoc. curator, 01–* Asst, U. S. Geol. Surv, 90. F.A.A. (sec'y, E, 03, 04–); Geol. Soc; Geog. Ass; Min. Eng; fel. N. Y. Acad. (v. pres, 05). The volcanoes of the Lesser Antilles; eruptions of Mt. Pelé, Martinique, and the Soufrière, St. Vincent; general geology.

Hovey, Rev. Horace C(arter), 60 High St, Newburyport, Mass. *Geology, Anthropology.* Robroy, Ind, Jan. 28, 33. A.B, Wabash, 53; A.M, 56. Tutor, Wabash, 55–56; *pastor,* Presbyterian and Congregational churches, 56–05; *Presbyterian Church, Newburyport, Mass, 05–* D.D, 83. F.A.A; Geol. Soc; Nat. Geog. Soc; Soc. de Spéléologie. Caverns and their contents; archeology; natural history.—Caverns and their contents.

Howard, Dr. F(rederic) H(ollis), Williamstown, Mass. *Physiology.* Newburyport, Mass, Sept. 3, 76. Cornell, 93–94; M.D, Pennsylvania, 98. Res. physician, Mercy Hosp, Pittsburg, 98–99; asst. demonstrator path, Pennsylvania, 99–00; instr. *anat. and physiol, Williams,* 00–04, *asst. prof, 04–* Am. Med. Ass; Mass. Med. Soc; Phila. Path. Soc.

Howard, Dr. L(eland) O(ssian), U. S. Department of Agriculture, Washington, D. C. **Entomology.* Rockford, Ills, June 11, 57. B.S, Cornell, 77, M.S, 83. Asst. entomologist, *U. S. Dept. Agr,* 78–94, *chief entomologist, 94–; hon. curator, U. S. Nat. Mus, 95–* Lecturer entom, Swarthmore; ed, 'Insect Life'; contributor definitions in entom, 'Century and Standard Dictionaries.' Hon. Ph.D, Georgetown, 96. F.A.A. (v. pres, 95, 97, perm. sec'y, 98–); Soc. Nat; Ass. Econ. Entom. (pres, 94); Soc. Prom. Agr. Sci; Wash. Acad; Wash. Biol. Soc. (pres, 97–98). Economic entomology; relations of insects to disease; parasitic Hymenoptera.

Howard, Dr. Orson, 1105 First St, Salt Lake City, Utah. *Natural science.* Salt Lake City, Nov. 6, 53. Utah, 75–80; B.S, Iowa (Grinnell), 83, A.M, 86; M.D, Bellevue Med. Col, 92. Prof. nat. science, *Utah,* 84–90, 98–04, *curator, Mus, 04–* M.A.A. Spiders of Utah.

Howard, Prof. S(amuel) Francis, 19 Phillips St, Amherst, Mass. *Chemistry.* Wilbraham, Mass, June 14, 72. B.S, Mass. Agr. Col, 94; Hopkins, 96–98; M.S, Mass. Agr. Col, 01. Principal, High Sch, Eliot, Me, 95; *asst. prof. chem, Mass. Agr. Col, 99–* F.A.A; Chem. Soc; Electrochem. Soc. Inorganic and physical chemistry.—A method for determination of the molecular weights of electrolytes.

Howard, Dr. William Travis, Jr, 88 Dorchester Ave, Cleveland, O. **Pathology, Bacteriology.* Statesburg, S. C, March 13, 67. Virginia, 85–87; M.D, Maryland, 89; Hopkins, 89–94. *Prof. path. and bacter, Western Reserve, 94–* Pathologist, Lakeside and City Hosp; city bacteriologist, Cleveland. Ass. Path. and Bact. (pres, 02); Am. Physicians. Heart hypertrophy; origin and occurrence of cells with eosinophil granulations; ulcerative endocarditis; B. aerogenes capsulatus; origin of gas and gas cysts of the central nervous system; streptococcus mucosus; general gaseous emphysema; the pathology of labial, nasal and corporeal herpes occurring in acute croupous pneumonia, and their relation to herpes zoster; actinomycosis; tumors; etiology of smallpox; vaccinia.

Howe, Pres. Charles S(umner), Case School of Applied Science, Cleveland, O. *Astronomy.* Nashua, N. H, Sept. 29, 58. B.S, Mass. Agr. Col. and Boston, 78; Ph.D, Wooster, 87. *Prof. math. and astron,* Buchtel, 83–89; *Case, 89–, pres, 03–* Hon. Sc.D, Armour Inst, 05. F.A.A. (sec'y, A, 03, gen. sec'y, 04); Astron. and Astrophys. Soc; Math. Soc; fel. Royal Astron. Soc. The almucantar as an instrument for determination of star places; constant temperature rooms for clocks; printing chronographs. —Effect of temperature on the Case almucantar; catalogue of stars determined with the almucantar.

Howe, Dr. Ernest, 1724 I St, N. W, Washington, D. C. *Petrology.* New York, N. Y, Sept. 28, 75. A.B, Yale, 98; A.M, Harvard, 99, Ph.D, 01. *Asst. geologist, U. S. Geol. Surv, 00–* M.A.A; Geol. Soc; Wash. Geol. Soc; Torrey Bot. Club. Experimental geology; physics of igneous intrusions; pre-Cambrian intrusive rocks; Tertiary and later volcanic rocks.—The eruptive rocks of the Lesser Antilles; terrace phenomena of the Rocky Mountain region.

Howe, Freeland, Jr, Norway, Me, and 2124 Farmers Bank Building, Pittsburg, Pa. *Biology.* Norway, May 30, 70. A.B, Colby, 94; Hopkins, 97–98; Harvard, 98–00; Woods Hole, 99–00; A.M, Harvard, 00. Asst. bacteriologist, Testing Sta, Spring Garden Water Works, Phila, 00–02; *chemist and bacteriologist,* Harrisburg, Pa, 02–03; *Norway, Me, 03–; Pittsburg, 05–* Instr. zool, Summer Sch, Bayville, Me, 00– M.A.A. A new method for determining the color of the turbidity of water; automatic thermo-regulator for 20° C. incubators; mechanical filtration.—Water purification.

Howe, Geo(rge), 1627 Josephine St, New Orleans, La. *Physics, Electrical engineering.* New Orleans, Sept. 22, 81. B.E, Tulane, 01. *Instr. physics, Tulane, 01–* Engineer, Fairbanks Co; U. S. Eng. Corps. Mathematics; physics; thermodynamics; electrical engineering.—The gas-engine; electrical power transmission.

Howe, Prof. H(enry) M(arion), 27 W. 73d St, New York, N. Y. *Metallurgy.* Boston, Mass, March 2, 48. B.S, Mass. Inst. Tech, 71; A.M, Harvard, 72. Lecturer, Mass. Inst. Tech, 85–97; *prof. metal, Columbia, 97–* Pres, Jury of Awards, Columbian Expos, 93; juror, Paris Expos, 89, 90. Elliot-Cresson gold medal, Franklin Inst, 95; Bessemer gold medal, Gt. Britain Iron and Steel Inst, 95; gold medal, Verein Beförderung des Gewerbfleisses, 95; award, Soc. d'Encouragement pour l'Industry Nationale, 95; Chevalier Légion d'honneur, 01; LL.D, Harvard and Lafayette, 05. F.A.A;

Min. Eng. (pres, 93); Mech. Eng; fel. N. Y. Acad; Philos. Soc; hon. mem. Dallas Hist. Soc; hon. mem. Gt. Britain Iron and Steel Inst; hon. mem. Gt. Britain Inst. Min. and Metal; cor. mem. Soc. d'Encourag. pour l'Indust. Nat; hon. mem. Russian Imperial Tech. Soc. Metallurgy; iron, steel and other alloys; metallurgy of steel; copper smelting.

Howe, Prof. Herbert A(lonzo), University Park, Denver, Colo. **Astronomy.* Brockport, N. Y, Nov. 22, 58. A.B, Chicago, 75; A.M, Cincinnati, 77; Sc.D, Boston, 84. Student and asst, Observatory, Cincinnati, 75–80; *prof. math. and astron, Denver, 81–, dean, Col. Liberal Arts, and director, Chamberlin Observatory, 92–* F.A.A; Astron. and Astrophys. Soc; Math. Soc; Colo. Acad; Astron. Gesell. Double stars; nebulae; orbits of comets and asteroids; Kepler's problem.—Determination of positions of 2,000 neglected nebulae discovered in America; observations of comets and asteroids; new methods of solving Kepler's problem.

Howe, Dr. Ja(me)s Lewis, Washington and Lee University, Lexington, Va. **Chemistry.* Newburyport, Mass, Aug. 4, 59. A.B, Amherst, 80; Ph.D, Göttingen, 82; Berlin, 82; Mass. Inst. Tech, 94. Instr. chem, Brooks Mil. Acad, Cleveland, 82–83; prof. chem. and geol, Central Univ. of Ky, 83–87; scientist and lecturer, Polytech. Soc. of Ky, 86–94; prof. chem. and dean, Hosp. Col. of Med. and Col. of Dentistry, Louisville, 87–94; *prof. chem, Washington and Lee, 94–* Hon. M.D, Hosp. Col. of Med, Louisville, 86. F.A.A. (sec'y, C, 92, of Council, 94, gen. sec'y, 95, v. pres, 00); Chem. Soc; Wash. Acad; London Chem. Soc; Chem. Gesell. Ruthenium; double and complex salts with organic acids; other platinum metals.—Chlorids, etc, of ruthenium; chromium and cobalt malonates, succinates and tartrates (double and complex); tellurium.

Howe, Prof. Malverd A(bijah), 2108 N. Tenth St, Terre Haute, Ind. *Civil engineering.* Northfield, Vt, Dec. 9, 63. B.S, Norwich, 82; C.E, Dartmouth, 86. Instr. *civil eng,* Lawrence Sci. Sch, Harvard, 86–87; *prof, Rose, 87–* Practising engineer, 82– Civil Eng; Eng. Educ; St. Louis Eng. Club. Strength of vitrified sewer pipe; effect of different beds upon strength of stone; drawbridge reactions; deflection of bridges under various loads and speeds; reinforced concrete beams; arches.

Howe, Dr. Marshall A(very), New York Botanical Garden, Bronx Park, New York, N. Y. **Botany.* Newfane, Vt, June 6, 67. Ph.B, Vermont, 90; fellow, Columbia, 97–98, Ph.D, 98. Instr. crypt. bot, California, 91–96; curator, Herbarium, Columbia, 99–01; *asst. curator, N. Y. Bot. Garden, 01–* Assoc. ed, 'Bul. Torrey Bot. Club,' 98–; ed, 'Torreya,' 01– F.A.A; Bot. Soc; Soc. Plant Morph. and Physiol; fel. N. Y. Acad. Taxonomy of Hepaticae and marine Algae of North America.—Taxonomy of marine Algae of the Atlantic coast of North America.

Howe, Reginald Heber, Jr, Concord, Mass. *Ornithology.* Quincy, Mass, April 10, 75. Nobles Sch, Boston, 88–95; Lawrence Sci. Sch, Harvard, 01. Lecturer ornith, various New England schools, 99–02; instr. nat. science, Middlesex Sch, Concord, Mass, 01–05. M.A.A; assoc. Ornith. Union; Nat. Geog. Soc; Nuttall Ornith. Club; Boston Soc. Nat. Hist; Wash. Biol. Soc. Birds of Rhode Island, Massachusetts and Vermont.

Howell, Edwin E(ugene), 612 17th St, N. W, Washington, D. C. *Geology.* Genesee Co, N. Y, March 12, 45. A.M, Rochester, 80. Geologist, U. S. Geog. Surv. West of 100th Meridian, 72–73; U. S. Surv. of Rocky Mt. region (Powell), 74. F.A.A; Geol. Soc; Nat. Geog. Soc. Geological survey work; relief maps and models; meteorites.

Howell, Thomas, Creighton, Ore. *Botany.* Near Pisgah, Mo, Oct. 9, 42. Botany of northwestern America.

Howell, Dr. W(illiam) H(enry), 232 W. Lanvale St, Baltimore, Md. **Physiology.* Baltimore, Feb. 20, 60. A.B, Hopkins, 81, Ph.D, 84. Asst. and assoc. biol, Hopkins, 84–88, assoc. prof. physiol, 88–89; prof. physiol. and histol, Michigan, 89–92; assoc. prof. *physiol,* Harvard, 92–93; *prof, Hopkins, 93–* Assoc. ed, 'Jour. Exp. Med,' and 'Am. Jour. Physiol.' Prize, Am. Physiol. Soc; hon. M.D, Michigan, 90; LL.D, Trinity (Conn.), 01. Nat. Acad; F.A.A; Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; Philos. Soc; Md. Med. and Chirurg. Faculty; Mass. Med. Soc. Origin of the red corpuscles of the blood; degeneration and regeneration of nerve fibres; causation of the rhythmic beat of the heart; mechanism of sleep; internal secretion of hypophysis cerebri; isolated mammalian heart.—Relation of the inorganic salts of the blood to the heat of the heart; proteids of blood serum.

Hower, Harry S(loan), 174 Bell Ave, Cleveland, O. *Physics.* Parker, Pa, July 24, 77. B.S, Case, 99; Berlin, 03–05. *Instr.* science, High Sch, Conneant, O, 99–00; *physics, Case, 00–* M.A.A; Physical Soc. Coefficient of expansion of metals by interferometer methods; the effect of radium rays upon oxygen; the detection of minute quantities of ozone; the formation of ozone by the photoelectric discharge in oxygen.

Howerth, Prof. Ira W(oods), Valparaiso, Ind. *Sociology.* Mt. Liberty, Ind, June 18, 60. A.B, Northern Ind. Nor. Sch, 85; A.B, Harvard, 93; A.M, Chicago, 94, Ph.D, 98. Asst. *sociol, Chicago,* 95–96, instr, 96–02, *asst. prof, 02–* Sec'y, Class Study Dept, Univ. Exten. Div, Chicago, 94–98; registrar, Col. for Teachers, Chicago, 98–99, dean, 99–00. F.A.A. Education and evolution.—The social question; social waste.

Howison, Prof. G(eorge) H(olmes), 2731 Bancroft Way, Berkeley, Cal. *Philosophy.* Montgomery Co, Md, Nov. 29, 34. A.B, Marietta, 52; Lane Theol. Sem, 52–55; A.M, Marietta, 55; Berlin, 81–82. Asst. prof. math, Washington (St.

Louis), 64–66, Tileston prof. polit. econ, 66–69; prof. logic and philos. of science, Mass. Inst. Tech, 71–79; lecturer ethics, Harvard, 79–80; *philos*, Michigan, 83–84; *Mills prof, California, 84–* Principal, Acad, Marietta Col; High Sch, Portsmouth, O; supt. pub. schools and principal, High Sch, Harmar, O; master, High Sch, Salem, Mass; English High Sch, Boston; ed, 'Pub. of Univ. of Cal. in Philos'; 'Pub,' Philos. Union; co-editor, 'Psychol. Rev'; 'Hibbert Jour.' LL.D, Marietta, 83. M.A.A; Am. Hist. Ass; Nat. Geog. Soc; St. Louis Philos. Soc. (v. pres, 86–89); Cal. Hist. Soc. Metaphysics; logic; ethics.—A system of metaphysics ('personal idealism'); the bases of real logic; the basis of ethics.

Hoxie, Dr. Geo(rge) L, 45 Broadway, New York, N. Y. *Physics, Electrical engineering.* Leonardsville, N. Y, May 14, 72. M.E, Cornell, 92, M.M.E, 97, Ph.D, 02. Instr. physics, Arizona, 92–93, prof, 93–96; instr, Cornell, 98–99, elec. eng, 99–02; *engineer and contractor.* Mech. Eng; Elec. Eng. Electrical machinery.

Hrdlička, Dr. A(leš), U. S. National Museum, Washington, D. C. **Anthropology, Osteology, Brain study.* Humpolec, Bohemia, March 30, 69. M.D, N. Y. Homeop. Med. Col, 92. Interne and anthropologist, State Service for the Insane, 94–98; in charge physical anthrop, Hyde Exped. for Am. Mus. Nat. Hist, 99–03; *asst. curator in charge, Div. Physical Anthrop, U. S. Nat. Mus, 03–* Assoc. ed, 'Am. Naturalist,' 01– F.A.A; Ass. Anat; Anthrop. Ass; Wash. Anthrop. Soc; Wash. Biol. Soc; cor. mem. Soc. d'Anthrop. de Paris; Bohemian Ethnol. Soc; cor. mem. Royal Bohemian Soc. Sci. Racial and individual variation; physical and physiological anthropology of the Indians of southwestern United States and northern Mexico; racial osteology; general anthropology.

Hubbard, Prof. Geo(rge) D(avid), 1235 Harrison Ave, Columbus, O. *Geology, Geography.* Tolono, Ills, May 12, 71. B.S, Illinois, 96, fellow, 96–97, M.S, 98; A.M, Harvard, 01; Ph.D, Cornell, 05. Asst. geol, Illinois, 97–00; Dept. Geog, East. Ills. State Nor. Sch, 01–03; physical geog, Cornell, 03–04, instr, 04–05; *asst. prof. geol, Ohio State, 05–* Temporary field asst. glacial geol, U. S. Geol. Surv, 04–05. Nat. Geog. Soc. Geographic influence of gold and silver in the development of the United States.—Physiography of the lands; influence of physiography and geography on industrial development; physiography of Ohio.

Hubbard, Dr. Lucius L(ee), Houghton, Mich. *Geology, Mining.* Cincinnati, O, Aug. 7, 49. A.B, Harvard, 72; LL.B, Boston, 75; Ph.D, Bonn, 87. Asst, Mich. Geol. Surv, 91–93; asst. instr. miner, Mich. Col. Mines, 91–93; state geologist, Mich, 93–99; *gen. manager, King Philip Copper Co. and Challenge Mine; consulting geologist, Tamarck-Osceola Mining Co.* Geol. Soc; Min. Eng; Lake Superior Min. Inst. Geology.—Correlation of Keweenawan beds.

Hubbard, Prof. Marion E(lizabeth), Wellesley College, Wellesley, Mass. *Zoology.* McGregor, Ia, Aug. 31, 68. Mt. Holyoke, 86–89; B.S, Chicago, 94. Asst. science and language, High Sch, Eau Claire, Wis, 89–93; instr. *zool, Wellesley, 94–01, assoc. prof, 02–* Skin glands of some California salamanders.—Mesoblastic somitis of chick.

Huber, Prof. G(otthelf) Carl, 1330 Hill St, Ann Arbor, Mich. **Anatomy, Histology, Embryology.* Hoobly, India, Aug. 30, 65. M.D, Michigan, 87; Berlin, 90–91; Prague, 95. Asst. demonstrator anat, *Michigan,* 87–89, instr. histol, 89–91, asst. prof. histol. and embryol, 91–98, junior prof. anat. and director, Histol. Lab, 98–03, *prof. histol. and embryol. and director, Histol. Lab, 03–* Assoc. ed, 'Am. Jour. Anat.' Prize, Am. Physiol. Soc, 01. F.A.A; Soc. Nat; Ass. Anat. (sec'y and treas, 04–05); Physiol. Soc; Ass. Path. and Bact; Soc. Exp. Biol. and Med; Am. Med. Ass; fel. Royal Micros. Soc. Nerve regeneration and degeneration; microscopic anatomy of sympathetic nerves of vertebrates; sensory nerve endings; neuroglia tissue of vertebrates; neuroglia during degeneration of nerve tissues; degeneration and regeneration of motor and sensory nerve endings.—Development and morphology of uriniferous tubules in mammals.

Hudson, George H(enry), 19 Broad St, Plattsburgh, N. Y. *Biology.* North Bangor, N. Y, Oct. 1, 55. Private instruction. Private teacher music, bot, zool, etc, 79–90; teacher nat. science, *State Nor. Sch, Plattsburgh,* 90–92, *v. principal, in charge science, 92–* F.A.A; Ass. Econ. Entom; Am. Conchol. Soc; New Eng. Hist. and Geneal. Soc; various educ. societies. Flora, Mollusca and Lepidoptera of Clinton Co, N. Y; times of flight and egg-laying of moths.—Educational methods in light of theory of evolution; fauna of Chazy epoch.

Huey, Prof. E(dmund) B(urke), Allegheny, Pa. *Psychology.* Curllsville, Pa, Dec. 1, 70. A.B, Lafayette, 95; Ph.D, Clark, 99; Berlin and Paris, 01–02. Instr. Latin, Harry Hillman Acad, 95–97; prof. psychol, State Nor. Sch, Moorhead, Minn, 99–01; genet. psychol, Nor. Col, Miami, 02–03; asst. and hon. fellow in psychol, Clark, 03–04; *prof. psychol. and educ, Western Univ. of Pa, 04–* West. Philos. Ass. Physiology and psychology of reading.—The psychology and pedagogy of reading.

Huff, Dr. W(illiam) B(ashford), Bryn Mawr, Pa. *Physics.* Boscobel, Wis, Oct. 12, 66. A.B, Wisconsin, 89; A.M, Chicago, 96; Ph.D, Hopkins, 00. Instr. math, High Sch, Milwaukee, 93–96; student asst. *physics,* Hopkins, 99–00, asst, 00–01, instr, 01–02; *assoc, Bryn Mawr, 02–* Physical Soc. Spectroscopy.

Hulburt, Prof. L(orrain) S(herman), Johns Hopkins University, Baltimore, Md. **Mathematics.* Albany, Wis, March 8, 58. A.B, Wisconsin, 83, A.M, 88; Göttingen, 89–90; fellow, Clark, 91–92; Ph.D, Hopkins, 94. Prof. math. and astron, South Dakota, 87–91; instr. and assoc.

math, Hopkins, 92–97, *collegiate prof,* 97– Math. Soc. Plane algebraic curves.

Hulett, Dr. George A(ugustus), 2 Murray Place, Princeton, N. J. **Physical chemistry.* Will Co, Ills, July 15, 68. A.B, Princeton, 92; Ph.D, Leipzig, 98. Asst. chem, Princeton, 92–96; instr, Michigan, 99–04, *asst. prof. physical chem,* 04–05; *Princeton, 05–* Physical Soc; Chem. Soc; Electrochem. Soc. Surface tension and solubility; nature of precipitates; standard cells.—Standard cells; electrochemical equivalent; isomorphism in precipitates.

Hull, Prof. G(ordon) F(errie), Hanover, N. H. **Physics.* Garnet, Ont, Oct. 7, 70. A.B, Toronto, 92, fellow, 92–95; fellow, Chicago, 95–97, Ph.D, 97; Cambridge, England, and Berlin, 05–06. Asst. *physics, Toronto,* 92–95; Chicago, 95–97; prof, Colby, 98–00; asst. prof, *Dartmouth,* 00–03, *Appleton prof, 03–* Instr. physics, Chicago, 97–98, summers, 98, 99. F.A.A; Physical Soc; Astron. and Astrophys. Soc. Electrical radiation; experimental determination of the pressure of light; the elimination of gas action in experiments on light pressure.—The production of motion of an electrified body by a changing magnetic field; ether drift.

Hume, Prof. Alfred, University, Miss. *Mathematics.* Beech Grove, Tenn, Dec. 1, 66. B.E, Vanderbilt, 87, C.E, 88, Sc.D, 90. Fellow and instr. civil eng, Vanderbilt, 87–90; *prof. math, Mississippi, 90–, v. chancellor and dean, Acad. Dept, 05–* Acting prof. civil eng, Mississippi, 00–02. M.A.A; Eng. Educ; Eng. Ass. of the South.

Hume, Prof. James Gibson, 58 Spadina Road, Toronto, Can. *Philosophy, Ethics.* Near Toronto, Sept. 12, 60. A.B, Toronto, 87; fellow-elect, Hopkins, 88; A.M, Harvard, 89, Thayer fellow, 89, Rogers fellow, 90; Ph.D, Freiburg, 91. *Prof.* elect, *Toronto,* 89, *ethics and hist. philos, 91–* Psychol. Ass; British Ass. Application of philosophy to social and ethical problems.—The reaction against individualism; a history of ethics; the place of Christianity in the history of philosophy from the standpoint of development; relation of psychology and metaphysics to ethics; the educational significance of interest.

Humphrey, Richard L(ewis), 1001 Harrison Building, Philadelphia, Pa. *Civil engineering, Chemistry.* Marblehead, Mass, Oct. 19, 69. C.E, Pennsylvania, 91, A.M, 93. R. R. draftsman and topographer, 90–91; city draftsman and engineer, Phila, 91–92; founder and engineer in charge, City Testing Lab, Phila, 92–99; designer, *engineer and gen. manager, Buckhorn Portland Cement Co, 99–* F.A.A; Civil Eng; Chem. Soc; Soc. Chem. Indust; Soc. Testing Materials; Franklin Inst; Phila. Eng. Club (director, 98–99); Int. Ass. Testing Materials (sec'y, Am. Sect, 98–00). Manufacture, use and tests of cement and concrete; tests of materials of construction; theory of concrete construction.—Proper tests for cement; abnormal behavior of cements as to time of setting; accelerated tests for cements.

Humphreys, Pres. Alex(ander) C(rombie), 160 W. 59th St, New York, N. Y. *Engineering.* Edinburgh, Scotland, March 30, 51. M.E, Stevens, 81. Sec'y and supt, Bayonne and Greenville Gas Light Co, 72–81; chief engineer, Pintsch Lighting Co, 81–85; gen. supt. and chief engineer, United Gas Improv, 85–94; senior mem. Humphreys and Glasgow; pres, Buffalo Gas Co. and Manganese Steel Safe Co; *pres, Stevens, 03–* Hon. Sc.D, Pennsylvania, 03; LL.D, Columbia, 03. M.A.A; Mech. Eng; Min. Eng; Civil Eng; Eng. Educ; Chem. Soc; Soc. Chem. Indust; Am. Gas Light Ass. (pres, 99); Western Gas Ass; New Eng. Ass. Gas Eng; Pacific Coast Gas Ass; Ohio Gas Light Ass; British Inst. Civil Eng; British Ass. Candle power; illumination; photometry; water gas.—Technical education.

Humphreys, Prof. D(avid) C(arlisle), Lexington, Va. *Civil engineering.* Chatham Hill, Va, 56. C.E, Washington and Lee, 78. Teacher, McDonogh Sch, Md, 78–79; U. S. asst. engineer, Improv. of the Missouri River, 79–85; *prof.* applied math, later *civil eng, Washington and Lee, 85–, dean, Sch. Eng, 02–* Res. hydrographer, U. S. Geol. Surv, 95– Civil Eng; Eng. Educ; Nat. Geog. Soc; Va. Ass. Eng. (past pres.). Water resources of Virginia and West Virginia.

Humphreys, Dr. W(illiam) J(ackson), U. S. Weather Bureau Office, Mount Weather, Va, via Bluemont, Va. **Physics.* Gap Mills, W. Va, Feb. 2, 62. A.B, Washington and Lee, 86, C.E, 88; Virginia, 88–89; fellow, Hopkins, 95–96, Ph.D, 97. Prof. physics and math, Miller Sch, Va, 89–93; physics and chem, Washington (Md.), 93–94; instr. physics, Virginia, 97–05; *prof. meteorol. physics, and supervising director, Mount Weather Observatory, U. S. Weather Bur, 05–* Mem. Naval Observatory Eclipse Exped. to Ga, 00; Sumatra, 01. M.A.A; Physical Soc; Astron. and Astrophys. Soc; Nat. Geog. Soc; Wash. Philos. Soc. Pressure effect on arc spectra; solution and diffusion of metals in mercury; electric discharges; flash spectra; etc.—Pressure effect on spectra and allied phenomena.

Hun, Dr. Henry, 149 Washington Ave, Albany, N. Y. **Medicine.* Albany, N. Y, March 21, 54. Sheffield Sci. Sch, Yale, 74; M.D, Harvard, 79. Asst. physics, Sheffield Sci. Sch, Yale, 74–75; *prof. nervous diseases, Albany Med. Col, 85–* Am. Physicians; Neur. Ass; N. Y. State and Co. Med. Societies. Neurology.

Hunt, Dr. Reid, Hygienic Laboratory, U. S. Public Health and Marine Hospital Service, Washington, D. C. **Pharmacology, Physiology.* Martinsville, O, April 20, 70. A.B, Hopkins, 91; Bonn, 92; fellow, Hopkins, 94–96; Cornell, 95; Ph.D, Hopkins, 96; M.D, Col. Physicians and Surg, Baltimore, 96; Chicago, 97; Frankfort, 02–04. Asst. physiol, Hopkins, 92–94; tutor, Columbia, 96–98; assoc. and later assoc. prof. pharmacol, Hopkins, 98–03; *chief, Div. Pharmacol, U. S. Pub. Health and Mar. Hosp. Ser-*

vice, 04– Special expert in pharmacol, U. S. Dept. Agr, 01; assoc. ed, 'Am. Year-book of Med.' Physiol. Soc; Soc. Exp. Biol. and Med; Chem. Soc; Md. Med. and Chirurg. Faculty. Innervation of the heart and blood-vessels; blood pressure lowering bodies of suprarenal gland; toxicity of methyl alcohol; pharmacology of zygadenus venenosus, of nitriles and of quinine derivatives; chronic alcoholism; physiology of thyroids.

Hunt, Prof. Thomas F(orsyth), 37 East Ave, Ithaca, N. Y. *Agriculture.* Ridott, Ills, Jan. 1, 62. B.S, Illinois, 84, M.S, 94. Asst. to Ills. state entomologist, 85–86; asst. agr, Illinois, 86–88; asst. agriculturist, Ills. Exp. Sta, 88–91; prof. agr. Pa. State, 91–92; Ohio State, 92–03, dean, Col. Agr. and Domestic Sci, 96–03; *prof. agron, Cornell, and manager, Univ. Farms, 03–* Hon. D.Agr, Illinois, 02. Soc. Prom. Agr. Sci. (sec'y, 99–00). Cultural methods with farm crops; feeding experiments with farm animals. —Improvement of field crops.

Hunter, A(ndrew) F(rederick), Barrie, Ont, Can. *Anthropology.* Simcoe Co, Ont, Dec. 31, 63. A.B, Toronto, 89, A.M, 92. Ed. and publisher, 'Barrie Examiner,' 89–95. With Can. Geol. Surv. F.A.A; Can. Inst; Ont. Hist. Soc. (mem. Council, 92–02). Huron archeology; surface geology in relation to man.

Hunter, Prof. G(eorge) W(illiam), Andrews Ave, University Heights, New York, N. Y. *Zoology.* Mamaroneck, N. Y, April 7, 73. Col. City of N. Y, 91–93; A.B, Williams, 95, A.M, 96; fellow, Chicago, 96–97. Teacher, Hyde Park High Sch, Chicago, 97–98; *instr. biol, DeWitt Clinton High Sch, N. Y, 98–* Asst, Woods Hole, 95–; Williams, 96; lecturer nature-study, N. Y. Univ. M.A.A; Nat. Educ. Ass; Nat. Geog. Soc; N. Y. Ass. Biol. Teachers. Nervous system and nervous mechanism of heart of Tunicata.—Nervous system of Tunicata; reactions of Ctenophora.

Hunter, Prof. J(oseph) Rufus, 403 Lombardy St, Richmond, Va. *Chemistry.* Apex, N. C, June 6, 65. A.B, Wake Forest, 85, A.M, 89; Ph.D, Hopkins, 95. Teacher, private acad, Apex, N. C, 85; Rutherfordton, N. C, 87; Clayton, N. C, 88; instr. chem, Wake Forest, 88–89; *prof.* physics and math, State Nor. Sch, Oshkosh, Wis, 91–93; *chem, Richmond, 95–* F.A.A; Chem. Soc; Chem. Gesell. Anilids of orthosulphobenzoic acid.

Hunter, Prof. S(amuel) J(ohn), 1309 Ohio St, Lawrence, Kas. *Zoology, Entomology.* Bandon, Ireland, Nov. 11, 66. Baker, 88; A.B, A.M, Kansas, 93; Cornell, 96; Woods Hole, 01, 02. Principal, High Sch, Columbus, Kas, 90–91; Atchison Co. High Sch, Kas, 93–96; asst. prof. entom, *Kansas,* 96–99, *assoc. prof,* 99–01, *comp. zool. and entom, 01–* Director, state hort. inspection, Kas, 01– F.A.A; E. Kas. Teachers' Ass. (pres, 95). Biology and taxonomy of Coccidae; osmosis as a factor in artificial parthenogenesis; morphology of artificial parthenogenesis.—The cytaster in the unfertilized egg of Arbacia in process of artificial development; the rôle of polar bodies in artificial parthenogenesis.

Hunter, Walter D(avid), U. S. Department of Agriculture, Washington, D. C. *Entomology.* Lincoln, Nebr, Dec. 14, 75. A.B, Nebraska, 95, A.M, 97. Instr. entom, Nebraska, 96–99; asst. entomologist, U. S. Agr. Exp. Sta, Ames, Ia, 00; *investigator, Div. Entom, U. S. Dept. Agr, 01–, in charge boll-weevil investigations, 02–* F.A.A; assoc. Ornith. Union; Wash. Entom. Soc.

Huntington, Dr. E(dward) V(ermilye), 35 Fairfax Hall, Cambridge, Mass. **Mathematics.* Clinton, N. Y, April 26, 74. A.B, Harvard, 95, A.M, 97; Ph.D, Strasburg, 01. Instr. *math,* Harvard, 95–97; Williams, 97–99; *Harvard,* 01–05, *asst. prof, 05–* Ed, 'Annals of Math,' 02– Math. Soc; Math. Verein. Systems of postulates forming the bases of elementary mathematical theories.

Huntington, Ellsworth, Milton, Mass. *Geography, Geology.* Galesburg, Ills, Sept. 16, 76. A.B, Beloit, 97; A.M, Harvard, 02. Asst. to pres, Euphrates Col, Harput, Turkey, 97–01; mem. Pumpelly's Carnegie Inst. Exped. to Turkestan, 03–04; *mem. R. L. Barrett's Exped. to Chinese Turkestan, Geog. Ass, 05–* Gill Memorial medal, Royal Geog. Soc. M.A.A; Geog. Ass; Wis. Acad. Physiography; geology; archeology.

Huntington, Prof. Geo(rge) S(umner), 437 W. 59th St, New York, N. Y. **Vertebrate morphology.* Hartford, Conn, March 21, 61. A.B, Trinity (Conn.), 81, A.M, 83; M.D, Columbia, 84. Asst. demonstrator *anat, Columbia,* 86–88, demonstrator, 88–89, lecturer, 89–90, *prof, 90–* Am. ed, 'Jour. Anat. and Physiol,' 98; assoc. ed, 'Am. Jour. Anat,' 00. Hon. Sc.D, Columbia, 04. M.A.A; Ass. Anat. (pres, 00–); fel. N. Y. Acad. Vertebrate myology; visceral anatomy; comparative splanchnology; variation.—Significance of muscular variation; comparative myology.

Huntoon, Prof. L(ouis) D(oremus), Sheffield Scientific School, New Haven, Conn. *Mining engineering, Metallurgy.* Paterson, N. J, Jan. 28, 69. Ph.G, N. Y. Col. Pharmacy, 90; E.M, Columbia, 95. Chemist and assayer, Colo, 95–96; N. Y, 96–03; expert mining and metallurgical engineer, 03–05; *asst. prof. mining and metal, Sheffield Sci. Sch, Yale, 05–* Min. Eng; Soc. Chem. Indust. Metallurgical processes; milling of ores.

Hurd, Dr. Henry M(ills), Johns Hopkins Hospital, Baltimore, Md. **Psychiatry, Hospital organization.* Union City, Mich, May 3, 43. Knox, 55–58; A.B, Michigan, 63, M.D, 66. Asst. physician, Mich. Asylum for Insane, 70–77, asst. supt, 78; *supt,* Eastern Mich. Asylum, Pontiac, 78–89; *Hopkins Hosp, and prof. psychiat, Hopkins, 89–* Ed, 'Bul. Johns Hopkins Hosp,' 90–; 'Am. Jour. Insanity,' 97–; 'Hopkins Hosp. Reports.' LL.D, Michigan, 95. Am. Physicians; Neur. Ass; Medico-Psychol.

Ass. (sec'y, 93–97, pres, 99); Am. Acad. Med. (pres, 96); Am. Med. Ass; Anthrop. Ass; Folk-lore Soc. Psychiatry; hospitals, dispensaries and nursing.—Folk-lore of insanity; folk-lore of Maryland.

Hurd, Prof. William D(aniel), Orono, Me. *Agriculture.* De Witt, Mich, Dec. 19, 75. B.S, Mich. Agr. Col, 99. Instr, High Sch, Lansing, 99–01; *prof.* hort, Sch. Pract. Agr. and Hort, Briarcliff Manor, N. Y, 01–03; *agr, Maine, 03–* Orchard inspector, Illinois, summer, 00; supervisor, Extension Work, R. I. Col. Agr, summer, 03. Agriculture; plant diseases; plant breeding and improvement.

Hussey, Prof. W(illiam) J(oseph), Ann Arbor, Mich. **Astronomy.* Mendon, O, Aug. 10, 62. B.S, Michigan, 89. Principal schools, Ohio, Ills, 84–87; asst, 'Nautical Almanac' Office, 89; instr. math, Michigan, 89–91; acting director, Detroit Observatory, 91–92; asst. prof. astron, Stanford, 92–93, assoc. prof, 93–94, prof, 94–96; astronomer, Lick Observatory, 96–05; *prof. astron. and director, Observatory, Michigan, 05–* Expert to Committee on Observatories, Carnegie Inst, 03; in charge, Lick Observatory Eclipse Exped. to Egypt, 05. Astron. and Astrophys. Soc; Math. Soc; Pacific Astron. Soc; Wash. Acad; hon. mem. Soc. Astron. de Mex; for. assoc. Royal Astron. Soc. Motions of comets, minor planets, satellites and double stars; discovery of 1345 double stars.—Investigation of double stars; observations of the satellites of Saturn; systematic examination of the northern heavens to ascertain the number and distribution of the double stars, of the stars to the 9.1 magnitude inclusive.

Huston, Prof. Henry A, Chicago, Ills. *Agricultural chemistry.* Damariscotta, Me, April 20, 58. A.B, Bowdoin, 79, A.M, 82; A.C, Purdue, 82. Asst. chem. and physics, Bowdoin, 79–80; principal and science teacher, High Sch, Lafayette, Ind, 80–84; prof. physics, Purdue, 84–88, agr. chem, Purdue, and state chemist, Ind, 88–03; director, Ind. Agr. Exp. Sta, 02–03; *manager, Western Office of Propaganda Dept, German Kali Works,* St. Louis, 03–05, *Chicago, 05–* Asst. state chemist, Ind, 84–86; director, Ind. Weather Service, 84–96. Ass. Off. Agr. Chemists (pres, 95, Committee on Food Preservatives, 95–); Chem. Soc; Ind. Acad; St. Louis Acad. Methods of agricultural analysis; soil improvement; swamp lands; fertilizers; phosphates; the sugar-beet; food preservatives.—Soil improvement and fertilization; under irrigation.

Hutchins, Prof. C(harles) C(lifford), 74 Federal St, Brunswick, Me. *Physics.* Canton, Me, July 12, 58. A.B, Bowdoin, 83, A.M, 84; Harvard, 85–86; Leipzig, 99–00. *Prof. physics, Bowdoin, 88–* Physical Soc. Radiation; spectroscopy.—Atmospheric radiation; gaseous radiation.

Hutchinson, Dr. Cary T(alcott), 60 Wall St, New York, N. Y. **Electrical engineering.* St. Louis, Mo, March 4, 66. Ph.B, Washington (St. Louis), 86; fellow, Hopkins, 88–89, Ph.D, 89. With Sprague Elec. Railway Co. and Gen. Elec. Co, 89–90; *consulting engineer, N. Y, 90–* In charge, Dept. Elec, Hopkins, 99–00. Physical Soc; Elec. Eng. (v. pres, 99); Civil Eng; Mech. Eng; Franklin Inst.

Hutchinson, Prof. J(ohn) I(rwin), Cornell Heights, Ithaca, N. Y. **Mathematics.* Bangor, Me, April 12, 67. A.B, Bates, 89; Clark, 90–92; Ph.D, Chicago, 96. Instr. *math, Cornell,* 94–03, *asst. prof, 03–* Math. Soc. (assoc. ed, 'Trans.'). Hyperelliptic functions; theta functions; automorphic functions; surfaces.—Automorphic functions.

Hutchinson, Dr. Woods, 310 The Marquam, Portland, Ore. *Pathology, Anatomy, Anthropology.* Selby, England, Jan. 3, 62. A.B, Penn, 80, A.M, 83; M.D, Michigan, 84. Prof. anat, Iowa, 91–96; comp. path. and embryol, Buffalo, 96–00; *sec'y, Ore. State Board of Health.* Prof. methods of science teaching, Dept. Pedag, Buffalo, 96–98; lecturer diseases of animals, Med. Grad. Col, London, 99–00; lecturer biol, Extension Dept, London, 99–00. Soc. Nat; Am. Acad. Med. Tuberculosis in man and animals; cancer in mammals and birds; the pituitary body in Acromegaly, giantism and dwarfism.—Real shape of the tuberculosis chest; pathology of uric acid in mammals and birds; gout; appendicitis; racial pathology, especially in Indians, Japanese and Chinese.

Hyde, Edw(ard) P(echin), Bureau of Standards, Washington, D. C. *Physics.* Baltimore Co, Md, Jan. 3, 79. A.B, Hopkins, 00, fellow, 01–02, fellow by courtesy, 02– Lab. asst, *Bur. Standards,* 02–05, *asst. physicist, 05–* Physical Soc. Theory of Matthews and Russell; Leonard photometers.—Investigation of Talbot's law for sectored disks.

Hyde, Prof. E(dward) W(yllys), 814 Lincoln Ave, Cincinnati, O. **Mathematics.* Saginaw, Mich, Oct. 17, 43. B.C.E, Cornell, 72, C.E, 74. Instr. eng, Cornell, 71–73; prof. *math,* Pa. Mil. Acad, 73–74; asst. prof, *Cincinnati,* 75–78, *prof,* 78– Assoc. ed, 'Annals of Math'; treas. and actuary, Columbia Life Ins. Co, Cincinnati. F.A.A. (sec'y, A, 85, v. pres, 91); Math. Soc. (mem. Council). Vector and point analysis with their applications.—Surfaces represented by equations whose coefficients are homogeneous functions of the roots of a given algebraic equation.

Hyde, Dr. Ida H(enrietta), University of Kansas, Lawrence, Kas. *Physiology.* Davenport, Ia, Sept. 8, 63. Illinois, 81; A.B, Cornell, 91; fellow, Bryn Mawr, 91, grad. student, 91–93; Strasburg, 93; Col. Alumnae European fellow, 94–95; Hearst research fellow, 95–96; Ph.D, Heidelberg, 96; Naples Zool. Sta, 96; Bern, 96; Radcliffe, 97; Harvard Med. Sch, 97; Liverpool, 04. Teacher, pub. schools, Chicago, 81–88; asst. biol, Bryn Mawr, 91; prof. histol. and anat, Ingalls and Dr. Sargent's Prep. Sch, Cambridge, Mass, 97–00; assoc. prof. *physiol, Kansas,* 99–05, *prof, 05–* Prof. biol, Hyannis Nor. Sch, summers, 99–01; asst. physiol, Woods Hole,

02–03. Hon. life mem. Am. Women's Table, Naples (sec'y, 97–00). Physiol. Soc. Mechanical respiratory movements in Limulus; nervous system in Gonionema; influence of pressure on the blood flow through coronary vessels; Entwicklung der Scyphomedusen; Physiologie des Ohr Labyrinth; zur Secretion des Speicheldrüse in Octopus; collateral circulation; comparison of the azygous system in the cat and other animals; influence of solutions on the central nervous system.

Hyde, Dr. James Nevins, 100 State St, Chicago, Ills. *Dermatology.* Norwich, Conn, June 21, 40. A.B, Yale, 61, A.M, 65; M.D, Pennsylvania, 69. Asst. surgeon, U. S. N, 63–67, past asst. surgeon, 67–69; lecturer, Rush Med. Col, 73–76; *prof. dermat,* Northwestern, 76–78; *Rush Med. Col, 79–, professorial lecturer, Chicago, 01–* Sixth Int. Dermat. Cong. (sec'y for Am.). Dermat. Ass. (pres, 81, 96); Am. Med. Ass; Ills. Med. Soc; Chicago Med. Soc; hon. mem. N. Y. State Med. Soc; Berlin Dermat. Gesell; Vienna Dermat. Gesell; Ass. française de Dermat; Int. Cong. Dermat. Radio- and photo-therapy in malignant cutaneous lesions; blastomycosis of the skin; etc.

Hyde, Pres. William DeWitt, Brunswick, Me. *Philosophy, Ethics, Education.* Winchendon, Mass, Sept. 23, 58. A.B, Harvard, 79; Andover Theol. Sem, 82. Pastor, Congregational church, Paterson, N. J, 84–86; *pres, Bowdoin, 86–* D.D, Harvard; LL.D, Syracuse. Philos. Ass.

Hyer, Dr. R(obert) S(tewart), Georgetown, Tex. *Physics.* Oxford, Ga, Oct. 18, 60. A.B, Emory, 81, A.M, 84. *Prof. physics, Southwestern, 82–* LL.D, Central, 00. Fel. Tex. Acad. Electric waves; thermal coefficient in conductivity.—Lowering of freezing-points by solutions.

Hylan, Dr. John P(erham), 97 William St, Stoneham, Mass. *Psychology.* Fremont, N. H, Aug. 27, 70. Harvard, 91–95; Leipzig and Heidelberg, 99–00; Ph.D, Clark, 01. Instr. psychol, Illinois, 97–98, asst. prof, 98–99; asst. philos, Harvard, 00–05. Prof. psychol, Sloyd Training Sch, Boston, Mass. Psychol. Ass. Psychology of attention; psychology of religion.—Inhibitory effect of efferent upon afferent processes.

Hyslop, Prof. James H(ervey), 519 W. 149th St, New York, N. Y. **Philosophy.* Xenia, O, Aug. 18, 54. A.B, Wooster, 77; Leipzig, 82–84; Ph.D, Hopkins, 88. Instr. philos, Lake Forest, 80–82, 84–85; Smith, 85–86; Bucknell, 88–89; instr. and prof, Columbia, 89–02. LL.D, Wooster, 02. Philos. Ass; Soc. Psychical Research (v. pres, 00–). Logic; ethics; psychology; democracy; epistemology; metaphysics.

I

Iddings, Prof. Joseph P(axson), 5730 Woodlawn Ave, Chicago, Ills. **Petrology.* Baltimore, Md, Jan. 21, 57. Ph.B, Yale, 77, grad. student, 77–78; Sch. of Mines, Columbia, 78–79; Heidelberg, 79–80. Asst. geologist, U. S. Geol. Surv, 80–88, geologist, 88–92; assoc. prof. *petrol, Chicago, 92–95, prof, 95–; geologist, U. S. Geol. Surv, 95–* Asst. mech. drawing and surveying, Sheffield Sci. Sch, Yale, 77–78; ed, 'Jour. Geol.' F.A.A; Geol. Soc; Nat. Geog. Soc; Wash. Acad; Wash. Geol. Soc; Wash. Philos. Soc; hon. mem. N. Y. Acad; for. mem. London Geol. Soc; for. mem. Christiania Sci. Soc. Igneous rocks.—Chemical, mineral and geological relationships of igneous rocks.

Ingals, Dr. E(phraim) Fletcher, 34 Washington St, Chicago, Ills. *Medicine.* Lee Center, Ills, Sept. 29, 48. M.D, Rush Med. Col, 71; A.M, Chicago, 79. Asst. prof. materia medica, *Rush Med. Col,* 71–73, lecturer diseases of the chest and physical diagnosis, Spring Course, 74–83, *prof.* laryngol, 83–90, laryngol. and practise of med, 90–93, laryngol. and diseases of the chest, 93–98, *diseases of the chest, throat and nose, 98–*; diseases of the throat and chest, Northwestern Woman's Med. Sch, 79–98; *laryngol. and rhinol, Chicago Polyclinic, 90–; professorial lecturer med, Chicago, 01–* Registrar, Rush Med. Col, 91–98, comptroller, 98–; attending physician, Cook Co. Hosp; laryngologist, St. Joseph's and Presbyterian Hospitals; consulting physician diseases of chest, throat and nose, St. Anthony's Hosp. Laryngol. Ass. (past pres.); Am. Med. Ass; Climat. Ass. (past pres.); Ills. Med. Soc. (past pres.); Chicago Laryngol. and Climat. Soc. (past pres.); Chicago Med. Soc; Chicago Path. Soc; Chicago Internal Med. Soc; Chicago Medico-Legal Soc. Diseases of the chest, throat and nose.

Ingbert, Dr. Charles E(merson), Independence State Hospital, Independence, Ia. *Neurology.* Fillmore Co, Minn, July 7, 68. A.B, North Dakota, 95, A.M, 02; fellow, Chicago, 00–03, Ph.D, 03; M.D, Rush Med. Col, 04. Principal schools, Arvilla, N. Dak, 95–96; supt. schools, Tower City, N. Dak, 96–00; research asst. neur, Chicago, 03–04; *asst. physician, State Insane Hosp, Ia, 04–* Medullated nerve fibers in the ventral and dorsal roots of the spinal nerves of man.—Pseudohypertrophic muscular atrophy.

Ingersoll, Ernest, Author's Club, New York, N. Y. *Zoology.* Monroe, Mich, March 13, 52. Oberlin, 67–71; Mus. Comp. Zool, Harvard, 72–73. Ed. asst. zool, 'Standard Dict,' 92–95; lecturer zool, Chicago, 01; ed. zool, 'New Int. Encyclopedia,' 02–03; collaborator, Smithsonian Inst. Boston Soc. Nat. Hist; Davenport Acad; Nuttall Ornith. Club; N. Y. Linnean Soc. Nests and eggs of American birds; oyster industries of United States; book of the ocean; Nature's calendar; wild life of orchard and field.—Boy's natural history.

Ingham, Prof. L(eslie) H(oward), Gambier, O. *Chemistry.* Cleveland, O, June 7, 67. A.B, Dartmouth, 89, A.M, 92; Ph.D, Pennsylvania, 94. Electrician, Brush Elec. Co, Cleveland, O, 89–91; asst. chem, *Kenyon,* 91–93, *Bowler prof. physics and chem, 94–* Prof. physics, Chautauqua, 92–95; first asst. chemist, Mining Bldg, Columbian Expos, 93; chemist and assayer, Cuyahoga Gold Mining and Milling Co.

Chem. Soc. Constitution of certain native sulphids of the tetrahedrite family; electrolytic estimation of nitric acid.—Electrolytic estimation of nitrates; modification of cyanid process.

Ingram, Edward L(overing), 11 Willoughby Ave, Brooklyn, N. Y. *Engineering, Electricity.* Philadelphia, Pa, Sept. 9, 62. C.E, Columbia, 85. Inspector, draftsman, asst. engineer, U. S. Govt, 85–91; asst. engineer, Int. Boundary Surv, U. S. and Mex, 91–95; practising civil engineer, 95–00; with Eng. Dept, N. Y. C. and H. R. R. R, 00–01; *expert aid (civil engineer), Navy Yard, N. Y, 01–* M.A.A; assoc. mem. Civil Eng.

d'Invilliers, E(dward) V(incent), 506 Walnut St, Philadelphia, Pa. *Geology, Mining.* Philadelphia, Aug. 2, 57. B.S, Pennsylvania, 78. Asst. geologist, Second Pa. Geol. Surv, 78–90; *consulting geologist and mining engineer, 84–* Geol. Soc; Min. Eng; Philos. Soc; Nat. Geog. Soc; Franklin Inst. Geology and practise of bituminous coal mining.

Ireland, Oscar B(rown), 413 Main St, Springfield, Mass. *Actuarial mathematics.* New York, N. Y, Oct. 28, 40. A.B, Col. City of N. Y, 59. *Actuary, Mass. Mutual Life Ins. Co, 72–* Mem. Sch. Committee, Springfield, 98–03. Hon. A.M, Col. City of N. Y. Math. Soc; Actuarial Soc. (pres, 01–03).

Irish, H(enry) C(lay), Missouri Botanical Garden, St. Louis, Mo. *Horticulture.* Emerald Grove, Wis, April 22, 68. B.S, S. Dak. Agr. Col, 91; M.S, Iowa State, 97. Hort. asst, *Mo. Bot. Garden,* 94–02, *supt, 03–* Soc. Hort. Sci; Soc. Prom. Agr. Sci; Pomol. Soc; Nat. Geog. Soc; Engelmann Bot. Club (sec'y, 01–02). Garden peppers; garden beans.—American peaches.

Irons, Prof. David, Bryn Mawr College, Bryn Mawr, Pa. *Philosophy.* Dundee, Scotland, Aug. 7, 70. A.M, St. Andrew's Univ, 91; Ferguson Inter-univ. scholarship, Scotland, 92–94; Ph.D, Cornell, 94. Asst. *philos,* Cornell, 95–97; prof. pro tem, Vermont, 97–98; instr, Cornell, 98–00; *prof, Bryn Mawr, 00–* Philos. Ass; Psychol. Ass; Anthrop. Ass. Theory of emotion.—Psychology of ethics.

Irons, Dr. E(rnest) E(dward), Presbyterian Hospital, Chicago, Ills. *Pathology, Bacteriology.* Council Bluffs, Ia, Feb. 17, 77. B.S, Chicago, 00, fellow, 00–01, M.D, Rush Med. Col, 03. *Asst, Dept. Path. and Bacter, Chicago, 02–* Soc. Bact; Pub. Health Ass. Methods in water analysis.

Irving, Prof. J(ohn) D(uer), Lehigh University, South Bethlehem, Pa. *Mining, Geology.* Madison, Wis, Aug. 18, 74. A.B, Columbia, 96, A.M, 98, Ph.D, 99. Geol. aid, *U. S. Geol. Surv,* 99–00, *asst. geologist, 00–;* acting prof. *geol,* Wyoming, 03; *asst. prof, Lehigh, 03–* Ed, 'Econ. Geology.' F.A.A; Min. Eng; Wash. Geol. Soc; fel. N. Y. Acad. The geology, occurrence and origin of ore deposits.

Isham, Dr. George S(now), 488 N. State St, Chicago, Ills. *Astrophysics.* Chicago, Oct. 8, 59. A.B, Yale, 81; M.D, Northwestern, 84, A.M, 86. Astron. and Astrophys. Soc. Spark and arc spectra.—Effect on spark spectrum of gases under high pressure.

Ives, F(rederic) E(ugene), Woodcliffe-on-Hudson, Weehawken, N. J. **Photography.* Litchfield, Conn, Feb. 17, 56. Pub. schools. In charge, Photog. Lab, Cornell, 74–78; *commercial enterprises, 78–* Fifteen medals and prizes for inventions and discoveries from Am. and foreign societies. F.A.A; Micros. Soc; hon. mem. Phila. Photog. Soc; Franklin Inst; fel. Royal Photog. Soc; fel. Royal Micros. Soc. Special photographic processes and applications, with special reference to orthochromatic photography, trichromatic photography and photoengraving; inventor of parallax stereogram; glass sealed copies Rowland diffraction gratings; etc.

Ives, Prof. Howard C(hapin), 3643 Locust St, Philadelphia, Pa. *Civil engineering.* Cheshire, Conn, March 20, 78. Ph.B, Yale, 98, C.E, 00. Civil engineer, 99–00; instr. *civil eng,* Worcester, 00–03; *asst. prof, Pennsylvania, 03–* Civil Eng; Eng. Educ. Stereotomy.—Railroad engineering.

Ives, Dr. J(ames) E(dmund), University of Cincinnati, Cincinnati, O. *Physics.* London, England, Sept. 19, 65. Ph.D, Clark, 01. Asst. curator, Acad. Nat. Sci, Phila, 87–93; instr. physics, Drexel Inst, Phila, 93–97; Cincinnati, 01–03; scientific expert, DeForest Wireless Tel. Co, N. Y, 03–05; *asst. prof. physics, Cincinnati, 05–* Physical Soc; Elec. Eng; Phila. Acad. Marine invertebrates; theory of the induction coil.—Induction coil; electrical oscillations.

Ivey, Dr. J(oseph) N(ettles), 1410 St. Andrew St, New Orleans, La. *Mathematics.* Pineville, Ala, June 29, 76. A.B, Alabama, 95; Ph.D, Berlin, 01. Instr. *math, Tulane,* 01–03, *asst. prof, 03–* Math. Soc. (pres, 02). The moduli of periodicity of the Abelian integrals.—The moduli of periodicity of the Abelian integrals and the differential equations which they satisfy.

J

Jack, John G(eorge), 117 Forest Hill St, Jamaica Plain, Mass. *Dendrology, Arboriculture, Horticulture.* Chateaugay, Que, April 15, 61. *Asst, Arnold Arboretum, 86–, lecturer, 91–; lecturer landscape hort, Mass. Inst. Tech, 99–; instr. forestry, Harvard, 03–* With U. S. Geol. Surv; U. S. Bur. Forestry. F.A.A; Forestry Ass; fel. Am. Acad; Mass. Hort. Soc; Boston Soc. Nat. Hist. Dendrology; arboriculture; horticulture; economic entomology.

Jackman, Prof. Wilbur S(amuel), University of Chicago, Chicago, Ills. *Natural science.* Mechanicstown, O, Jan. 12, 55. Allegheny, 80–82; A.B, Harvard, 84. Teacher hist. and geog, State Nor. Sch, California, Pa, 77–81; biol, High Sch, Pittsburg, 84–89; Cook Co. Nor. Sch, 89–99; Chicago Inst, 00–01; *prof. teaching nat. science, Sch. of Educ, Chicago, 01–,* dean,

01–04, *principal, Univ. Elementary Sch, 04–* Ed, 'Elementary Sch. Teacher.' Elementary education.

Jackson, A(braham) Wendell, 432 St. Nicholas Ave, New York, N. Y. *Mineralogy, Geology.* Chelsea, Mass, Feb. 13, 55. Ph.B, California, 74; Leipzig, 75; Freiberg, 76. Instr. chem, California, 74, miner, 77, prof. miner, petrog. and econ. geol, 86–90; consulting engineer, New York and Boston, 91–96; *pres. and gen. manager, Central Elec. Construction Co, and Atlantic Eng. Co, N. Y, 96–* M.A.A; Geol. Soc; Am. Geog. Soc; Cal. Acad; N. Y. R. R. Club; hon. mem. San Francisco Mechanics Ass; Geol. Gesell. Minerals and rocks of California.

Jackson, Prof. Charles Loring, Cambridge, Mass. **Chemistry.* Boston, Mass, April 4, 47. A.B, Harvard, 67, A.M, 70; Heidelberg and Berlin, 73–75. Asst. *chem, Harvard,* 68–71, asst. prof, 71–81, prof, 81–99, *Erving prof, 99–* Nat. Acad; F.A.A; Chem. Soc; Am. Acad. (cor. sec'y); British Ass; Chem. Gesell. Organic selenium compounds; substituted benzyl compounds; curcumin; turmerol; preparation of borneol; difluorbenzoic acid; benzoltrisulphonic acid; trichlortrinitrobenzol; behavior of nitrobenzols containing halogens; etc.—Orthoquinones; diimin; quinone addition to dimethylanilin; bromin addition to dimethylanilin.

Jackson, Prof. C(larence) M(artin), 1201 Paquin St, Columbia, Mo. **Anatomy.* What Cheer, Ia, April 12, 75. Fellow, Missouri, 97–99, B.S, 98, M.S, 99, M.D, 00; Leipzig, 03–04; Berlin, 04. Instr. anat, *Missouri,* 99–00, asst. prof. *in charge anat. and histol,* 00–02, *prof, 02–* Ass. Anat; Am. Med. Ass. Comparative anatomy and histology of vertebrates.—Human topographic anatomy.

Jackson, Daniel D(ana), 941 President St, Brooklyn, N. Y. *Chemistry, Microscopy, Bacteriology.* Gloucester, Mass, Aug. 1, 70. B.S, Mass. Inst. Tech, 93; Harvard Med. Sch, 96–97; cand. for Sc.D, N. Y. Univ, 04–06. Analyst, Boston Water Works, 93–95; bacteriologist, Worcester, Mass, 95; biologist, Mass. State Board of Health, and lecturer, Mass. Inst. Tech, 95–97; chief chemist, Mt. Prospect Lab, Brooklyn, Dept. Water Supply, N. Y. City, 97–04; *director, Laboratories, Dept. Water Supply, Gas and Elec, N. Y. City, 04–* Chem. Soc; Soc. Chem. Indust; Micros. Soc; Pub. Health Ass; N. Y. Chemists Club (sec'y); Brooklyn Eng. Club; Brooklyn Inst. Chemistry and biology of water supply; boiler treatment; coal; oil; asphalt and cement.—Turbidimetry; water supply and sewage; analysis of lubricating oils.

Jackson, Prof. Dugald C(aleb), Madison, Wis. **Electrical engineering.* Kennett Square, Pa. Feb. 13, 65. B.S, Pa. State, 85; Cornell, 85–87; C.E, Pa. State, 88. Instr. physics, Cornell, 86–87; v. pres. and engineer, Western Eng. Co, Lincoln, Nebr, 87–89; asst. chief engineer, Sprague Elec. Railway and Motor Co, N. Y, 89–90; chief engineer, Central District, Edison Gen. Elec. Co, 90–91; *prof. elec. eng, Wisconsin, 91–* Consulting engineer and expert for various corporations; mem. Jury of Awards, Columbian Expos, 93; Pan-Am. Expos, 01. Elec. Eng; Mech. Eng; Civil Eng; Soc. Int. des Elec. Applied electricity.

Jackson, Miss Florence, Wellesley College, Wellesley, Mass. *Chemistry.* Eccles, England, Aug. 3, 72. B.S, Smith, 93; Barnard, Columbia, 97–99; A.M, Smith, 02. Asst. chem, Smith, 94–97; teacher, High Sch, Newark, N. J, 97–99; *instr. chem, Wellesley, 99–* Chem. Soc. Comparison of delicacy of tests used for the detection of metals in qualitative analysis.

Jackson, Dr. Henry, 309 Marlborough St, Boston, Mass. *Medicine.* Boston, Oct. 25, 58. A.B, Harvard, 80, M.D, 84. Visiting physician, Boston City Hosp; instr. clin. med, Harvard Med. Sch. Am. Physicians. Medicine.

Jackson, H(enry) A(skew), Columbia University, New York, N. Y. *Physical chemistry.* Wilmington, Del, July 21, 77. B.S, Princeton, 99; Leipzig, 99–01; A.M, Columbia, 03. *Asst. physical chem, Columbia, 02–* Physical Soc; Chem. Soc; Soc. Chem. Indust; Soc. Electrochem. Indust; Chem. Gesell. Law of mass action.

Jackson, Dr. Holmes C(ondict), 997 Madison Ave, Albany, N. Y. *Physiological chemistry.* New York, N. Y, Feb. 18, 75. Ph.B, Yale, 96, Ph.D, 99; Strasburg and Bern, 00–01. Asst. *physiol. chem,* Yale, 96–00; instr, Univ. and Bellevue Hosp. Med. Col, 01–03, asst. prof, 03–05; *adj. prof. and director, Laboratories Physiol. Chem. and Exp. Physiol, Albany Med. Col, 05–* Am. cor, 'Maly's Jahresbericht für Thierchemie.' Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; N. Y. Soc. Physiol. Chemists. Action of alcohol on secretion and digestion; origin of kynurenic acid; paranuclein from casein; origin of lactic acid with new method for studying intermediary metabolism.—Origin of glycuronic acid; gastric secretion by reflex; action of alcohol; chromic acid diabetes.

Jackson, Dr. J(ohn) H(enry), 155 Franklin St, Fall River, Mass. *Medicine.* Lee, Me, March 26, 38. A.B, Colby, 60, A.M, 63; M.D, Bowdoin, 68. Teacher, high schools, 60–63; principal, High Sch, Grand Rapids, Wis, 63–65; *practising physician,* Vassalboro, Me, 68–73; *Fall River, Mass, 73–; prof. practise of med, Col. Physicians and Surg, Boston, 94–, path, 03–* Prof. nervous diseases and registrar, Col. Physicians and Surg, Boston. M.A.A; Am. Acad. Med; Am. Med. Ass; Mass. Med. Soc; Fall River (Mass.) Med. Soc. Medicine; therapeutics; neurology.

Jackson, Prof. John Price, State College, Pa. *Electrical engineering.* Kennett Square, Pa, Sept. 27, 68. Certificate in mech. arts, Pa. State, 87, B.S, 89, M.E, 92, E.E, 01. Foreman, Edison Elec. Illuminating Co, Phila, 89; director, Indust. Dept, Fisk, 89–90; constructing engineer, Sprague and Edison Elec. Companies, 90–92; instr. in charge, Dept. of Drafting and Shop Work, *Pa. State,* 93, asst. prof.

elec. eng, 94, prof, 94–05, *prof. and elec. director, 05–* Consulting engineer; expert and officer in various industrial companies. Elec. Eng; Mech. Eng; Eng. Educ. (v. pres.); Electrochem. Soc; Harrisburg Eng. Club (director). Alternating currents and alternating current machinery.

Jackson, Prof. L(ambert) L(incoln), State Normal School, Brockport, N. Y. *Mathematics.* Binghamton, N. Y, April 14, 70. A.B, Michigan, 97, A.M, 99; B.Pd, Mich. Nor. Col, 00. Instr. *math*, Mich. Nor. Col, 91–00; *prof, State Nor. Sch, Brockport, N. Y, 00–* Math. Soc. The teaching of mathematics in the sixteenth century.

Jackson, Dr. Robert T(racy), 9 Fayerweather St, Cambridge, Mass. **Paleontology.* Dorchester, Mass, July 13, 61. B.S, Harvard, 84, Sc.D, 89. Instr. *paleont, Harvard*, 92–99, *asst. prof, 99–* F.A.A. (sec'y, F, 98); Soc. Nat; Geol. Soc; fel. Am. Acad. Anatomy, structure and phylogeny of Pelecypoda and Paleozoic Echini; localized stages in development of plants and animals.—Developmental stages in colonial animals.

Jacobi, Dr. A(braham), 19 E. 47th St, New York, N. Y. **Medicine.* Hartum, Germany, May 6, 30. Greifswald, 47; Göttingen, 48; M.D, Bonn, 51. Prof. *diseases of children*, N. Y. Med. Col, 60–65; Univ. Med. Col, 65–70; clin. prof, *Columbia*, 70–00, prof, 00–02, *emer. prof, 02–* LL.D, Michigan, 98; Columbia, 00; Yale, 05. Am. Physicians (pres, 96); Pediat. Soc. (pres, 89, 05); Climat. Ass. (pres, 98); Med. Librarians (pres, 05); Laryngol. Soc; Am. Acad; Wash. Acad; N. Y. State Med. Soc. (pres, 82); N. Y. Co. Med. Soc. (pres, 71–72); N. Y. Acad. Med. (pres, 85–89); N. Y. Path. Soc. (pres, 64); N. Y. Obstet. Soc. (pres, 66); fel. N. Y. Acad; Phila. Col. Physicians; Boston, Buffalo and Louisville Obstet. Societies; Brooklyn Med. Soc; Paris and Berlin Obstet. Societies; Würzburg Physikalisch. Med. Gesell; Paris, St. Petersburg and Kiev Pediat. Societies; Budapest Royal Med. Soc; Rome Royal Med. Soc. The diseases of women and children; dentition and its derangement; diphtheria; infant hygiene; intestinal diseases; therapeutics of infancy and childhood.

Jacobs, Prof. Elbridge C(hurchill), University of Vermont, Burlington, Vt. *Chemistry, Metallurgy, Mineralogy.* Ogunquit, Me, Feb. 15, 73. B.S, Mass. Inst. Tech, 97. Asst. mining and metal, Mass. Inst. Tech, 97–99; instr. *chem. and miner, Vermont*, 99–01, asst. prof, 01–04, *prof, 04–* Chem. Soc. Analytical chemistry.

Jacobus, Prof. D(avid) S(chenck), 88 Summit Ave, Jersey City, N. J. *Mechanical engineering, Physics.* Ridgefield, N. J, Jan. 20, 62. M.E, Stevens, 84. Instr. and asst. prof. exp. mech, *Stevens*, 84–98, prof. exp. mech. and eng. physics, 98–03, *in charge of Carnegie Lab. of Eng, 00–, prof. exp. eng, 03–* F.A.A. (sec'y, D, 93, v. pres, 04); Math. Soc; Mech. Eng. (manager, 00, v. pres, 03); Min. Eng; Eng. Educ; Naval Archit. and Marine Eng; Soc. Refrig. Eng. (director, 04); Franklin Inst; N. Y. Railroad Club. Steam engineering.

Jacoby, Prof. Harold, 333 W. 76th St, New York, N. Y. **Astronomy.* New York, March 4, 65. A.B, Columbia, 85, Ph.D, 96. Asst. astronomer, U. S. Eclipse Exped. to W. Africa, 89–90; vol. asst, Cape of Good Hope Observatory, 90; adj. prof. *astron, Columbia*, 94–04, *acting head, Dept. Astron, 03–, prof, 04–* F.A.A; Astron. and Astrophys. Soc; Math. Soc. (treas. and ed, 'Bul.'); fel. N. Y. Acad. (councilor and sec'y); fel. Royal. Astron. Soc; Astron. Gesell. Application of photography to astronomical measurements of precision; stellar parallax.—Star clusters; variation of latitude; aberration of light; polar photography.

Jacoby, Prof. Henry S(ylvester), 7 Reservoir Ave, Ithaca, N. Y. *Bridge engineering.* Springtown, Pa, April 8, 57. C.E, Lehigh, 77. Mem. topog. corps, Second Pa. Geol. Surv, 78; transitman, gaging Red River and Atchafalaya River, 79; chief draftsman, U. S. Engineer's Office, Memphis, Tenn, 79–85; instr. civil eng, Lehigh, 86–90; asst. prof. *bridge eng. and graphics, Cornell*, 90–94, assoc. prof, 94–97, *prof, 97–* F.A.A. (sec'y, D, 95, v. pres, 01); Civil Eng; Eng. Educ. (sec'y, 00–02, ed, 'Proc,' 00, 01). Bridge stresses and design; graphic statics.—Stresses in metallic arches and in reinforced concrete arches.

Jacques, Dr. William White, 469 Beacon St, Boston, Mass. *Physics.* Haverhill, Mass, Aug. 10, 55. B.S, Mass. Inst. Tech, 76; A.M, Ph.D, Hopkins, 80. Expert, Am. Bell Telephone Co, 80–97. Lecturer elec. eng, Mass. Inst. Tech, 87–90. Fel. Am. Acad. Physics and chemistry.

Jaggar, Dr. T(homas) A(ugustus), Geological Museum, Cambridge, Mass. *Geology.* Philadelphia, Pa, Jan. 24, 71. A.B, A.M, Harvard, 94; Heidelberg and Munich, 94–95; Ph.D, Harvard, 97. Instr. *geol, Harvard*, 95–03, *asst. prof, 03–; prof. and head, Dept. Geol, Mass. Inst. Tech, 03–; asst. geologist, U. S. Geol. Surv, 98–* Instr, Wellesley, 02. Fel. Am. Acad. Experimental geology; vulcanology; physical mineralogy.—The Carribbean eruptions of 1902.

James, George Wharton, 1098 N. Raymond Ave, Pasadena, Cal, and Syracuse, N. Y. *Ethnology, Archeology.* Gainsborough, England, Sept. 27, 58. Co-editor, 'The Craftsman,' 04–05. Popular lecturer, Stanford, Cal. Acad, Princeton, Columbia, Drexel Inst, Franklin Inst, New York Board of Educ, Brooklyn Inst, Teachers Col, etc. Geol. Soc; Pacific Astron. Soc; S. Cal. Acad; Royal Astron. Soc; Royal Micros. Soc; Victoria Inst. Symbolism of Indian basketry designs; folk-lore; present social conditions of the Indians of California and the Amerinds of the southwest; the old Franciscan missions in California and the southwest; the Colorado desert.

James, Dr. J(oseph) H(idy), Carnegie Technical Schools, Pittsburg, Pa. *Chemistry.* Jeffersonville, O, Nov. 3, 68. B.S, Buchtel, 94; Colum-

bia, 97–98; Ph.D, Pennsylvania, 99. Asst. instr. chem, Buchtel, 94–97; chief chemist, Lake Superior Power Co, 99–02; *asst. prof.* textile chem. and dyeing, Clemson, 02–05; *tech. chem, Carnegie Tech. Schools, 05–* Acting prof. chem. and physics, Buchtel, 99. Chem. Soc; Electrochem. Soc. Organic synthesis by electrolysis; technical methods of analysis; mercerization.—Influence of impurities in mercerizing liquors; new mercerizing processes; vegetable textile fibers; coloring matter of raw cotton; etc.

James, Prof. Walter B, 17 W. 54th St, New York, N. Y. *Medicine.* Baltimore, Md, May 11, 58. A.B, Yale, 79; M.D, Columbia, 83. Asst. pathologist, N. Y. Hosp, 88–90; visiting and consulting physician, Bellevue, Presbyterian and Roosevelt Hospitals, and Hosp. for Ruptured and Crippled, 90–02; lecturer med, *Columbia,* 01–02, *prof. practise of med, 02–* LL.D, Columbia, 04. Am. Physicians.

James, Prof. William, 95 Irving St, Cambridge, Mass. **Psychology, Philosophy.* New York, N. Y, Jan. 11, 42. Lawrence Sci. Sch, Harvard, 61–63, M.D, 70. Instr. and later asst. prof. comp. anat. and physiol, *Harvard,* 72–80, asst. prof. philos, 80–85, *prof,* 85–89, psychol, 89–97, *philos, 97–* Gifford lecturer, Edinburgh, 00–02. Hon. Ph.D. and Litt.D, Padua, 93; LL.D, Princeton, 96; Edinburgh, 02; Harvard, 05. Nat. Acad; F.A.A; Soc. Nat; Psychol. Ass; Philos. Ass; cor. mem. Inst. de France; cor. mem. Royal Prussian Acad; Denmark Acad; Accad. dei Lincei. Psychology; philosophy.

Janeway, Dr. E(dward) G(amaliel), 36 W. 40th St, New York, N. Y. **Medicine, Pathology.* New Jersey, Aug. 31, 41. A.B, Rutgers, 60; M.D, Columbia, 64. Curator, *Univ. and Bellevue Hosp. Med. Col,* 68–73, prof. path. anat, later *prof. med. and dean, 73–* Health commissioner, N. Y, 75–82; various hosp. appointments. LL.D, Columbia, 04. Am. Physicians; Am. Med. Ass; Wash. Acad; etc.

Jaques, Capt. William H(enry), Little Boar's Head, N. H. *Engineering.* Philadelphia, Pa, Dec. 24, 48. Grad, U. S. Naval Acad, 67. Ensign, U. S. N, 68–70, master, 70–71, lieut, 71–87; ordnance engineer, Bethlehem Iron Co, 87–94; capt, N. J. Naval Reserve, 95–98. Asst, U. S. Coast Surv, 70–74; with N. Y. Board of Educ, 74–78; asst. inspector of ordnance, 81–82; mem. and sec'y, U. S. Gun Foundry Board, 83–85; sec'y, Senate Commission on Ordnance and Warships, 86–87. Japanese Order of Rising Sun. F.A.A. (sec'y, D, 01); Geol. Soc; Naval Archit. and Marine Eng; Civil Eng; Min. Eng; Mech. Eng; U. S. Naval Inst; U. S. Naval Order; assoc. U. S. Mil. Inst; Boston Soc. Civil Eng; fel. British Imp. Inst; British Inst. Civil Eng; British Inst. Mech. Eng; Gt. Britain Iron and Steel Inst; assoc. British Inst. Naval Archit; Ass. Tech. maritime de France; Russian Geog. Soc. Manufacture of heavy ordnance, armor, torpedoes, solar evaporators, etc; solar physics; invented double-forging process of armor and other improvements in its manufacture.

Jastrow, Prof. Joseph, 247 Langdon St, Madison, Wis. **Psychology.* Warsaw, Poland, Jan. 30, 63. A.B, Pennsylvania, 82, A.M, 85; fellow, Hopkins, 85–86, Ph.D, 86. *Prof. psychol, Wisconsin, 88–* In charge, Sect. Psychol, Columbian Expos, 93. F.A.A. (sec'y, H, 90, v. pres, 91); Soc. Nat; Psychol. Ass. (pres, 00). Psychology; efficiency tests; development, analysis and correlation of mental processes; abnormal psychology.—The subconscious; the psychology of the stereoscope; visual interpretation.

Jayne, Dr. Horace, 318 S. 19th St, Philadelphia, Pa. **Zoology, Anatomy.* Philadelphia, March 17, 59. A.B, Pennsylvania, 79, M.D, 82; Leipzig and Jena, 82–83; Hopkins, 83–84. Asst. instr. biol, Pennsylvania, 83–84, prof. vert. morph, 84–94, zool. and director, Wistar Inst, 94–05. Sec'y, Faculty of Biol, Pennsylvania, 84–89, dean, Col. Faculty, 89–94, Philos, 92–94. Hon. Ph.D, Franklin and Marshall, 93. F.A.A; Soc. Nat; Ass. Anat; Philos. Soc; Phila. Acad; Phila. Col. Physicians. Human and mammalian anatomy.—Museum methods and demonstrations.

Jefferson, Prof. Mark S(ylvester) W(illiam), 14 Normal St, Ypsilanti, Mich. *Geography.* Melrose, Mass, March 1, 63. A.B, Boston, 89; A.B, Harvard, 97, A.M, 98. Asst. astronomer, Argentine Nat. Observatory, Cordoba, 83–86; teacher and supt. schools, 89–96, 98–01; *prof. geog, State Nor. Col, Ypsilanti, Mich, 01–* Instr. geog, Summer Sch, Harvard, 98, 00; assoc. ed, 'Jour. Sch. Geog,' 01–; 'Jour. of Geog,' 02. Geol. Soc; Geog. Ass; Nat. Geog. Soc; Inst. Geog. Argentino. Geography of tides; river meanders; beach cusps.—Beach cusps.

Jeffrey, Prof. E(dward) C(harles), Botanical Museum, Harvard University, Cambridge, Mass. **Botany.* St. Catherines, Ont, May 21, 66. A.B, Toronto, 88; Ph.D, Harvard, 98. Lecturer biol, Toronto, 92–02; *asst. prof. veg. histol. and gen. morph, Harvard, 02–* F.A.A; Soc. Nat; assoc. Bot. Soc; Soc. Plant Morph. and Physiol; Bot. Cent. States. Gametophyte of Botrychium virginianum; structure, development and affinities of the genus Equisetum; morphology of the central cylinder in the angiosperms; structure and development of the stem in the Pteridophyta and gymnosperms.—Anatomical and developmental taxonomy of the monocotyledons; taxonomy of living and fossil Coniferae.

Jeffries, Dr. B(enjamin) Joy, 15 Chestnut St, Boston, Mass. *Medicine, Ophthalmology.* Boston, March 26, 33. A.B, Harvard, 54, A.M, M.D, 57; Vienna, 58–59. Ophthal. surgeon, Mass. Charity Eye and Ear Infirmary, 66–02. Consulting surgeon, State Hosp, Tewksbury; consulting ophthal. surgeon, New Eng. Hosp. for Women; ophthal. surgeon, Carney Hosp; lecturer, Harvard, 69–71. Mem. Int. Periodic Cong. Ophthal. F.A.A; Ophthal. Soc; New

Eng. Ophthal. Soc; fel. Mass. Med. Soc; Boston Soc. Nat. Hist; Boston Soc. Med. Sci; Boston Soc. Med. Improv. Anatomy and physiology of the eye; the color sense and color-blindness; education of the normal color sense; the ratio of defective congenital chromatic sense.—Color sense and its defects and elimination of its dangers by government and international agreements and treaties.

Jelliffe, Dr. Smith Ely, 64 W. 56th St, New York, N. Y. *Neurology, Psychiatry, Therapeutics.* New York, Oct. 27, 66. A.B, Brooklyn Polytech, 86; M.D, Columbia, 89, A.M, Ph.D, 00. *Prof. pharmacog, N. Y. Col. Pharmacy, 95–; clin. asst, Dept. Neur, Columbia, 99–, instr. pharmacol. and therapeut.* Ed, 'Med. News,' 00–; managing ed, 'Jour. Nervous and Mental Diseases,' 01– Neur. Ass; Am. Med. Ass; Pharmaceut. Ass. Neurology; psychiatry.—Clinical investigations; multiple sclerosis; convulsive disorders; dementia precox; general paresis.

Jenkins, Dr. E(dward) H(opkins), Drawer 1, New Haven, Conn. **Agricultural chemistry.* Falmouth, Mass, May 31, 50. A.B, Yale, 72; Leipzig, 75–76; Ph.D, Yale, 79. Chemist, *Conn. Agr. Exp. Sta,* 77–00, v. director, 84–00, *director, 00–, treas, 01–* Chairman, Conn. Sewerage Commission, 97–03. F.A.A; Soc. Prom. Agr. Sci. Agricultural chemistry.

Jenkins, Prof. Oliver P(eebles), Stanford University, Cal. *Physiology, Ichthyology.* Bantam, O, Nov. 3, 50. A.B, Moores Hill, 69, A.M, 71; M.S, Indiana, 86, Ph.D, 80. *Prof.* nat. sciences, Moores Hill, 76–82; Ind. State Nor. Sch, 83–86; biol, De Pauw, 86–91; *physiol, Stanford, 91–* F.A.A; Soc. Nat; Physiol. Soc; Cal. Acad; Ind. Acad; Cooper Ornith. Club; Wash. Acad; Wash. Biol. Soc. Nervous system of invertebrates; Hawaiian, American and Mexican fishes.

Jenks, Dr. Albert Ernest, Ethnological Survey, Manila, P. I. *Ethnology.* Ionia, Mich, Nov. 28, 69. B.S, Kalamazoo, 96; B.S, Chicago, 97; hon. fellow, Wisconsin, 98–99, Ph.D, 99. Econ. ed, 'Am. Thresherman,' 00–01; asst. ethnologist, Bur. Am. Ethnol, 01, ethnologist, 02; asst. chief, Bur. Non-Christian Tribes, Manila, P. I. 02; *chief, Ethnol. Surv. for the Philippine Islands, 03–* Chief, Ethnol. Dept, Philippine Expos, La. Purchase Expos, 04; special lecturer Philippine ethnol, Wisconsin, 05. F.A.A; Anthrop. Ass; Nat. Geog. Soc. The economic life of primitive peoples.—The wild rice gatherers of the upper lakes; the childhood of Ji-shib, the Ojibwa; the Bontoc Igorot in Luzon, P. I.

Jenks, Elisha T(ucker), 28 N. Main St, Middleborough, Mass. *Machinery.* Middleborough, Aug. 28, 45. Pierce Acad, Middleborough. F.A.A. Hardware for museum cases; machinery for cutting rock sections, etc.

Jenney, Dr. W(alter) P(roctor), Hotel Knutsford, Salt Lake City, Utah. *Geology.* Fairhaven, Mass, Jan. 11, 49. E.M, Columbia, 66. Mining engineer, Dorn Gold Mining Co, S. C, 71; geologist, Tex. Pacific R. R. Surv, 72; E. Ky. R. R, 73–74; in charge, U. S. Surv. Black Hills, 75–77; manager, Parker Mining Co, Wood River, Idaho, 84–87; mining engineer, Union Pacific R. R, 88; geologist in charge, Div. of Zinc, U. S. Geol. Surv, 89–92; special geol. investigations, Fremont and Elkhorn R. R. and Black Hills and F. and P. R. R, 94; Burlington R. R, 96; *consulting geologist, 96–* Hon. Ph.D, Columbia, 76. F.A.A; Min. Eng; Nat. Geog. Soc. Chemistry of the hydrocarbon oils; genesis and formation of ore deposits; developers for photographic negatives; vein phenomena; chemistry of ore deposition.—Laws of ore deposition.

Jennings, Prof. H(erbert) S(pencer), University of Pennsylvania, Philadelphia, Pa. **Zoology, Physiology, Psychology.* Tonica, Ills, April 8, 68. B.S, Michigan, 93; Morgan and Parker fellowships, Harvard, 95–97, A.M, 95, Ph.D, 96; Jena, 96–97. Asst. zool, Michigan and Harvard, 92–95; prof. bot, Mont. State Agr. Col, 97–98; instr. *zool,* Dartmouth, 98–99; Michigan, 99–01, *asst. prof,* 01–03; *Pennsylvania, 03–* Director, Biol. Surv. of Great Lakes, U. S. Fish Commission, 01; research asst, Carnegie Inst, 03–04; assoc. ed, 'Jour. Comp. Neur. and Psychol'; mem. Board of Editors, 'Jour. Exp. Zool.' Walker prize, Boston Soc. Nat. Hist. M.A.A; Soc. Nat; Soc. Zool; Physiol. Soc; Soc. Exp. Biol. and Med; Boston Soc. Nat. Hist; hon. fel. Royal Micros. Soc. Reactions and behavior of lower organisms; the Rotatoria.—Behavior of lower organisms.

Jennings, Otto E(mery), Carnegie Museum, Pittsburg, Pa. *Botany.* Olena, O, Oct. 3, 77. B.S, Ohio State, 03. Florist, Ohio State, 01–02, asst, Bot. Dept, 02–04; *custodian, Bot. Collection, Carnegie Mus, 04–* Assoc. ed, 'Ohio Naturalist,' 03–04. M.A.A; Ohio Acad; West. Pa. Bot. Soc; Pittsburg Acad; Sullivant Moss Chapter. Systematic botany and ecology; smuts (Ustilagineae); mosses.—Mosses.

Jennings, Prof. Walter L(ouis), 18 Boynton St, Worcester, Mass. *Chemistry.* Bangor, Me, Nov. 15, 66. A.B, Harvard, 89, A.M, 90, Ph.D, 92. Asst. prof. *chem, Worcester,* 94–01, *prof, 01–* F.A.A; Chem. Soc; fel. Am. Acad; Chem. Gesell. Products of the dry distillation of wood; constitution of rosanilin and pararosanilin; condensation of phenols with sugars.—Synthetic glucosids; nitration of benzoin.

Jepson, Prof. Willis L(inn), P. O. Box 103, Berkeley, Cal. **Botany.* Vacaville, Cal, Aug. 19, 67. Ph.B, California, 89; Cornell, 95; Harvard, 96; Ph.D, California, 99. Asst. *bot, California,* 91–94, instr, 95–98, *asst. prof, 99–* Ed, 'Erythea,' 93–00. Forestry Ass; Cal. Acad; Cal. Water and Forest Ass; Sierra Club. Morphology and taxonomy of the seed plants of California; geographical distribution of west American plants.—Geographical distribution, reproduction and growth of the tan oak; flora of southern California.

Jewett, Dr. Frank B(aldwin), Technology Club, Boston, Mass. *Physics, Electrical engineering.* Pasadena, Cal, Sept. 5, 79. A.B, Throop, 98; Ph.D, Chicago, 02. Research asst, Chicago, 00–02; instr. physics, Mass. Inst. Tech, 02–04; *with Am. Telephone and Telegraph Co, 04–* Elec. Eng; Physical Soc. Vapor density of sodium vapor; magnetic change of resistance in bismuth.—Effect of pressure on insulation resistance.

Jewett, Prof. F(rank) F(anning), 73 S. Professor St, Oberlin, O. *Chemistry, Mineralogy.* Newton Corner, Mass, Jan. 8, 44. A.B, Yale, 70, A.M, 73; Göttingen, 74–75; Berlin, 95–96. Teacher science, Norwich Free Acad, 70–72, 73–74; *prof.* chem, Univ. of Japan, 77–80; *chem. and miner, Oberlin, 80–* F.A.A; Chem. Soc; Chem. Gesell. Qualitative analysis; inorganic chemistry; sulphids of manganese, zinc, nickel and cobalt.

Johannsen, Dr. Albert, U. S. Geological Survey, Washington, D. C. *Geology.* Belle Plaine, Ia, Dec. 3, 74. B.S, Illinois, 94; B.S, Utah, 98; fellow, Hopkins, 02–03, Ph.D, 03. *Geol. asst,* Md. Geol. Surv, 01–03; *U. S. Geol. Surv, 03–* M.A.A; Wash. Geol. Soc.

Johannsen, Prof. Oskar A(ugustus), 919 E. State St, Ithaca, N. Y. *Civil engineering, Bacteriology.* Davenport, Ia, May 14, 70. B.S, Illinois, 94; A.M, Cornell, 02, Ph.D, 04. *Asst. prof. civil eng, Cornell, 04–* M.A.A. Biology of water supply.

Johnson, Dr. Cha(rle)s W(illis), 5031 15th Ave, N. E, Seattle, Wash. *Chemistry.* Concord, Ind, Sept. 23, 73. Ph.C, Michigan, 96, B.S, 00, Ph.D, 03. Asst. instr. chem, Michigan, 98–01; instr, Iowa, 01–02; asst. prof, *Washington (Seattle),* 03–04, *prof. pharmacy and physiol. chem, 04–* Chem. Soc; Pharmaceut. Ass; Wash. State Pharmaceut. Ass; Chem. Gesell. Oxidation products of morphin.

Johnson, C(harles) W(illison), 26 Elm St, Brookline, Mass. *Natural history.* Morris Plains, N. J, Oct. 26, 63. Pub. and private schools. *Curator,* Mus, Wagner Free Inst, Phila, 88–03; *Boston Soc. Nat. Hist, 03–* Assoc. ed, 'Nautilus,' 90– M.A.A; Soc. Zool; Entom. Soc; Boston Soc. Nat. Hist; Phila. Acad; Wash. Entom. Soc; London Malacol. Soc. Diptera; recent and fossil Mollusca.—Diptera of New England.

Johnson, Prof. Douglas Wilson, Massachusetts Institute of Technology, Boston, Mass. *Geology.* Parkersburg, W. Va, Nov. 30, 78. Denison, 96–98; B.S, New Mexico, 01; fellow, Columbia, 02–03, Ph.D, 03; Harvard, 03–04. Teacher, pub. schools, 97–98; field asst, Univ. Geol. Surv, N. Mex, 99–01; instr. *geol, Mass. Inst. Tech,* 03–05, *asst. prof, 05–* Asst. principal, High Sch, Albuquerque, 00–01; asst, U. S. Geol. Surv, 01, 03, 04–05. M.A.A; Nat. Geog. Soc; Boston Soc. Nat. Hist; N. Y. Miner. Club. Geology of New Mexico; drainage modifications in the southern Appalachians.—Drainage modifications in northeastern Georgia; topography of United States.

Johnson, Prof. Duncan S(tarr), Johns Hopkins University, Baltimore, Md. **Botany.* Cromwell, Conn, July 21, 67. B.S, Wesleyan, 92; Ph.D, Hopkins, 97. Assoc. *bot, Hopkins,* 98–01, *assoc. prof, 01–* In charge crypt. bot, Biol. Lab, Brooklyn Inst. Bot. Soc; Soc. Plant Morph. and Physiol. Development of sporophyte of Marsiliaceae; embryology of dicotyledons.—Development of the Piperaceae, Chloranthaceae and Hepaticae.

Johnson, Dr. Emory R(ichard), 516 S. 44th St, Philadelphia, Pa. *Transportation, Commerce.* Waupun, Wis, March 22, 64. B.L, Wisconsin, 88, M.L, 91; Munich, 91–92; Berlin, 92; Ph.D, Pennsylvania, 93. Instr. econ, Haverford, 93–96; lecturer *transportation and commerce, Pennsylvania,* 93–94, instr, 94–96, asst. prof. and later *prof, 96–* Expert agent on transportation, U. S. Indust. Commission, 99; mem. Isthmian Canal Commission, 99–04. Acad. Polit. and Social Sci. (assoc. ed, 'Annals,' 96–01, ed, 01–); Econ. Ass; Geog. Ass; Wash. Acad. Railroad transportation; the Isthmian Canal; commerce.

Johnson, Dr. Herbert P(arlin), St. Louis University, St. Louis, Mo. **Parasitology.* Nahant, Mass, Sept. 23, 64. A.B, Harvard, 89, A.M, 90; Clark, 91–92; Ph.D, Chicago, 94; Austin fellow, Harvard, 00–01. Asst. prof. zool, California, 94–00; *assoc. prof. bacter, Med. Dept, St. Louis, 03–* Asst. biol, Williams, 90–91; instr, Des Moines, 94; zool, Chautauqua, 94. Soc. Nat; Soc. Zool; Cal. Acad. Infusoria; Sporozoa; faunistic and systematic study of Polycheta; etiology of malarial diseases; mosquitoes and malaria; icterohematuria of sheep.

Johnson, Dr. John W(esley), University, Miss. *Physics.* Pontotoc, Miss, April 5, 52. A.B, Mississippi, 76, A.M, 79; Ph.D, Leipzig, 92. Asst. prof. Latin and math, Mississippi, 76–81; principal, Johnson Inst, Booneville, Miss, 81–86; Prep. Dept, *Mississippi,* 86–90, assoc. prof. *physics,* 92–99, *prof, 99–* Supt. educ, Prentiss Co, Miss, 85. Heat of obscure rays; osmosis in vegetable membranes.—Effect of an electric current on the direction of the spiral winding of morning-glory vines.

Johnson, Lawrence C(lement), Pachuta, Clarke Co, Miss. *Law, Biology, Geology.* Chester Dist, S. C, Aug, 18, 22. A.B, Episcopal Sem, N. Y, 43. Justice, Special Court of Miss, 66; *attorney and counselor-at-law.* Asst. geologist, U. S. Geol. Surv, 82–89, asst. hydrog. and hydrol, 01– Wash. Entom. Soc. Evolution of species; the Cretaceous, Tertiary and recent, of the Gulf states.—Hydrology; sources of spring and well water in Mississippi.

Johnson, Prof. L(ewis) J(erome), 90 Raymond St, Cambridge, Mass. *Civil engineering.* Milford, Mass, Sept. 24, 67. A.B, Harvard, 87, C.E, 88; Polytech, Zürich, 88–89; École des Ponts et Chaussées, Paris, 89–90. Instr. civil eng, Harvard, 90–92; practising engineer, Chicago, 92–94; instr. *civil eng, Harvard,* 94–96, *asst. prof, 96–* Civil Eng; Eng. Educ. (mem.

Council, 02–) ; Soc. Testing Materials; fel. Am. Acad; Boston Soc. Civil Eng. Reinforced concrete; applied mechanics; distribution of stress in the general case of flexure.—Floor loads due to crowds of people.

Johnson, Prof. Otis C(oe), 730 Thayer St, Ann Arbor, Mich. **Chemistry.* Kishwaukee, Ills, Sept. 11, 39. A.B, Oberlin, 68; Ph.C, Michigan, 71; A.M, Oberlin, 77. Instr. chem, *Michigan,* 71–80, asst. prof. *applied chem,* 80–89, *prof, 89–* F.A.A; Chem. Soc; Mich. Pharmaceut. Ass; London Chem. Soc; Chem. Gesell. Originated the complete system of negative valence.—A scheme for qualitative analysis by electricity.

Johnson, Roswell H(ill), Cheney, Wash. *Zoology.* Buffalo, N. Y, Oct. 9, 77. Brown, 95–96; Harvard, 96–99; B.S, Chicago, 00; M.S, Wisconsin, 03. Instr. zool, High Sch, Sioux Falls, 00–01; asst. vert. anat, Wisconsin, 01–03; instr. biol. and agr, State Nor. Sch, Cheney, Wash, 03–05; *research asst, Sta. for Exp. Evolution, Cold Spring Harbor, 05–* Asst. zool, Harvard and Chicago. Soc. Nat; Breeders' Ass. Pods on the palm and sole of the human foetus; axial bifurcation in snakes; variation and individuality of the pyloric caeca.—Evolutionary study of coccinellid beetles.

Johnson, Prof. Samuel W(illiam), 54 Trumbull St, New Haven, Conn. **Chemistry.* Kingsboro, N. Y, July 3, 30. Sheffield Sci. Sch, Yale, 50–51; Leipzig, 53–54; Munich, 54–55. Instr. chem, physics and human physiol, State Nor. Sch, Albany, N. Y, 51–52; first asst. chem, *Sheffield Sci. Sch, Yale,* 55–56, prof. anal. chem, 56–57, anal. and agr. chem, 57–74, theoret. and agr. chem, 74–96, *emer. prof. agr. chem, 96–* Assoc. ed, 'Am. Jour. Science,' 69–80; director, Conn. Agr. Exp. Sta, 77–99. Nat. Acad; Chem. Soc. (pres, 78); Soc. Prom. Agr. Sci; Am. Acad. Agricultural chemistry.

Johnson, Thomas H, 619 S. Negley Ave, Pittsburg, Pa. *Engineering.* Coshocton, O, Jan. 12, 41. A.B, Jefferson, 61; A.M, Washington and Jefferson, 66. Principal asst. engineer, P. C. C. and St. Louis Ry, 83–96, chief engineer, 96–01; *consulting engineer, Pa. Lines West, 01–* Civil Eng; West. Pa. Eng. Soc; Pittsburg Technischer Verein. Transverse strength and elasticity of building stones; strength of columns.

Johnson, Dr. Treat Baldwin, Yale University, New Haven, Conn. *Chemistry.* Bethany, Conn, March 29, 75. Ph.B, Yale, 98, Ph.D, 01. *Instr. chem, Sheffield Sci. Sch, Yale, 01–* Chem. Soc; Chem. Gesell. Organic chemistry.—Pyrimidin derivatives; pseudo-ureas; molecular rearrangements.

Johnson, Prof. W(illia)m Hallock, Lincoln University, Pa. *Philosophy, Greek.* New York, N. Y, Dec. 3, 65. A.B, Princeton, 88, A.M, B.D, 97; Ph.D, Columbia, 02. Prof. logic, etc, Centre, and instr. New Testament lit, Danville Theol. Sem, Ky, 97–01; *prof. classical and New Testament Greek, Lincoln, 03–* Philosophy; New Testament criticism.

Johnson, Prof. W(illiam) Woolsey, U. S. Naval Academy, Annapolis, Md, and 32 E. Preston St, Baltimore, Md. **Mathematics.* Owego, N. Y, June 23, 41. A.B, Yale, 62, A.M, 64. On 'Nautical Almanac' Corps, 62–64; asst. prof. *math,* U. S. Naval Acad, 64–70; *prof,* Kenyon, 70–72; St. John's (Md.), 72–81; *U. S. Naval Acad, 81–* Math. Soc; cor. mem. British Ass; London Math. Soc. Differential calculus; integral calculus; curve tracing; differential equations; least squares; mechanics.

Johnson, Prof. W(illis) G(rant), 52 Lafayette Place, New York, N. Y. *Biology, Horticulture, Agriculture.* New Albany, O, July 4, 66. Ohio State, 84–86; Cornell, 88–91; A.B, Stanford, 92, A.M, 94. Asst. entomologist, Stanford, 91–92, asst. registrar, 92–94; instr. entom, Illinois, and asst. state entomologist, Ills, 94–96; prof. entom. and invert. zool, Md. Agr. Col, and state entomologist, Md, 96–01; *ed, 'Am. Agriculturist,' 01–* Diploma and gold medal, Paris Expos, 00. F.A.A; Ass. Econ. Entom; Pomol. Soc; Soc. Prom. Agr. Sci; N. Y. Entom. Soc; Wash. Biol. Soc. General ecological problems as related to horticulture and agriculture.

Johnston, Clarence T, 202 E. 23d St, Cheyenne, Wyo. *Irrigation engineering.* Near Denver, Colo, Oct. 23, 72. B.S, Michigan, 95, C.E, 99. Asst, state engineer's office, Wyo, 88–91, summers, 91–95; gaging streams, Wyo, for U. S. Geol. Surv, 95–97; asst. state engineer, Wyo, 96–98; asst. chief of irrig. investigations, U. S. Dept. Agr, 98–03; *state engineer, Wyo, 03–* Consulting irrig. engineer, 97–99. Civil Eng; Ass. State Engineers; Wyo. Soc. Eng. and Surv. Irrigation law and engineering; flow of water in canals and ditches; design of irrigation structures.—Coefficient of friction and value of coefficient of roughness (Kutter's formula).

Johnston, Prof. J(ohn) B(lack), Morgantown, W. Va. **Zoology, Comparative neurology.* Belle Center, O, Oct. 3, 68. Ph.B, Michigan, 93, Ph.D, 99; Smithsonian Table, Naples Zool. Sta, 04–05. Asst. and instr. *zool,* Michigan, 93–99; asst. prof, *West Virginia,* 99–00, *prof, 00–* F.A.A; Soc. Nat; Soc. Zool; Mich. Acad. Nervous system of lower vertebrates; development of heart and blood-vessels in Amphibia; circulation in earthworms.—Nervous system of Amphioxus, Selachians and Amphibia.

Johnston, Prof. William A(tkinson), Massachusetts Institute of Technology, Boston, Mass. *Mechanical engineering.* Boston, Aug. 31, 68. B.S, Mass. Inst. Tech, 92. Asst. *mech. eng, Mass. Inst. Tech,* 92–94, instr, 94–00, *asst. prof, 00–* Mech. Eng; Boston Soc. Arts. Applied mechanics; steam engineering; strength of materials.

Johonnott, Prof. Edwin S(heldon), 2115 N. Ninth St, Terre Haute, Ind. *Physics.* Richmond, Ills, Nov. 9, 68. B.S, Rose, 93, M.S, 97; Hopkins, 95–96; fellow, Chicago, 97–98, Ph.D, 98. Examiner, U. S. Patent Office, 94; prof. physics and math, Drury, 94–95; asst, Chicago, 98–99; *assoc. prof. physics, Rose, 99–* F.A.A; Physical

Soc. Thickness of thin liquid films; Rayleigh's alternate current phasemeter; loss of energy by hysteresis in iron; frequency of alternating currents; laboratory exercises in harmonic motion.—Effect of pressure change on black liquid films.

Jones, Dr. Adam Leroy, Princeton University, Princeton, N. J. *Philosophy, Psychology.* Dunlap, Ills, July 2, 73. A.B, Williams, 95; Ph.D, Columbia, 98. Asst. *philos,* Columbia, 98–01, lecturer, 01–02, tutor, 02–05; *preceptor, Princeton, 05–* Instr, Summer Sch, Columbia, 01– F.A.A; Philos. Ass; Psychol. Ass; Nat. Educ. Ass. Early American philosophers.—Psychology of esthetics; sociological esthetics; experimental esthetics; scientific method.

Jones, Prof. C(lement) R(oss), Morgantown, W. Va. *Mechanical engineering.* Knottsville, W. Va, April 19, 71. B.S, C.E, West Virginia, 94, M.E, 97; M.M.E, Cornell, 00. Assoc. principal, West Virginia Col, 94–95; asst. *mech. eng, West Virginia,* 95–97, instr, 97–99, asst. prof, 99–01, *prof, 01–* M.A.A; Mech. Eng; Eng. Educ; Soc. Testing Materials. Specific heat of superheated steam; analysis of flue gases; losses in transmission of power by belting; fuel value of natural gas; effect of condensance on operation of indicator motors.

Jones, Prof. Forrest R(obert), 131 Blair St, Ithaca, N. Y. *Mechanical engineering.* Cincinnati, O, Dec. 12, 61. M.E, Cornell, 88. In charge construction of elec. lighting plants and elec. railways, 88–90; supt, Mech. Arts Dept, Tennessee, 90–91, *prof.* mech. arts, 91–92; machine design, Wisconsin, 92–99; drawing and machine design, Worcester, 99–03; *machine design, Cornell, 03–* Consulting engineer, N. Y. City. Mech. Eng; Elec. Eng; Eng. Educ. Power required for driving manufactories and shops; methods of power transmission; measurement of alternating current; efficiency of electric generators.

Jones, Prof. Fred(eric)k S(cheetz), 712 Tenth Ave, S.E, Minneapolis, Minn. **Physics.* Palmyra, Mo, April 7, 62. A.B, Yale, 84; Berlin, 87–88; Zürich, 88–89; A.M, Yale, 90. Instr. *physics,* Shattuck Sch, 84–85; *Minnesota,* 85–87, *dean, 90–, dean, Col. of Eng. and Mech. Arts, 02–* F.A.A; Physical Soc; Eng. Educ.

Jones, Prof. Geo(rge) W(illiam), Ithaca, N. Y. *Mathematics.* East Corinth, Me, Oct. 14, 37. A.B, Yale, 59, A.M, 62. Teacher math, Gen. Russell's School, New Haven, 59–62; Del. Lit. Inst, Franklin, N. Y, 62–68; prof, Iowa State, 68–74; asst. prof, later assoc. prof. and *prof. math, Cornell, 77–* Mathematics.—Higher algebra; trigonometry; tables.

Jones, Prof. Harry C(lary), Johns Hopkins University, Baltimore, Md. **Physical chemistry.* New London, Md, Nov. 11, 65. A.B, Hopkins, 89, fellow, 91–92, Ph.D, 92; Leipzig, Stockholm and Amsterdam, 92–94. Instr, later assoc. and assoc. prof. *physical chem, Hopkins,* 95–04, *prof, 04–* Assoc. ed, 'Jour. de Chim. Phys'; 'Phys.-Chem. Centralblatt.' Physical Soc; Chem. Soc. Physical chemistry; atomic weights; lowering freezing-point; rise of boiling-point; conductivity; migration velocity; etc.—Atomic weights; the conductivity of solutions of electrolytes in mixed solvents; their dissociation in hydrogen dioxid; the abnormal lowering of the freezing-point of water produced by electrolytes; the relation between lowering of freezing-point and osmotic pressure of electrolytes; the temperature coefficient of dissociation of electrolytes; the condition of double salts and other complex compounds in solution.

Jones, Prof. Joseph W(illiam) L(ester), Heidelberg University, Tiffin, O. *Ethics.* East Orange, N. J, July 4, 73. A.B, Princeton, 94, A.M, 95, Ph.D, 01. *Prof. psychol, logic, metaphysics and philos. of educ, Heidelberg (Ohio), 02–* The ethics of sympathy.

Jones, Prof. L(ewis) R(alph), University of Vermont, Burlington, Vt. **Botany.* Brandon, Wis, Dec. 5, 64. Ripon, 82–86; Ph.B, Michigan, 89, Ph.D, 04. Instr. nat. science, Mt. Morris Acad, Ills, 87–88; nat. hist, *Vermont,* 89–90, asst. prof, 91–92, assoc. prof, 92–93, *prof. bot, 93–; botanist, Vt. Exp. Sta, 90–* Special agent, Bur. Plant Indust, U. S. Dept. Agr, 04. F.A.A; Bot. Soc; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; New Eng. Bot. Club; Vt. Bot. Club (sec'y, 95–). Plant pathology.—Bacterial diseases of plants.

Jones, Dr. Louis Cleveland, The Solvay Process Co, Syracuse, N. Y. *Chemistry.* Oak Hill, N. Y, Dec. 25, 71. A.B, Yale, 96, Ph.D, 99. Asst. to Prof. Gooch, Yale, 96–99; *chemist, Solvay Process Co, 00–* Delegate of Solvay Process Co. to Fifth Int. Cong. Applied Chem, Berlin. Chem. Gesell. Estimation of boric acid.—Hydrofluoric acid action on boric acid.

Jones, Prof. Lynds, 160 N. Professor St, Oberlin, O. *Zoology, Ornithology.* Jefferson, O, Jan. 5, 65. Iowa (Grinnell), 88–90; A.B, Oberlin, 92, M.S, 95; fellow, Chicago, 04–05, Ph.D, 05. Asst. zool. and geol, *Oberlin,* 92–99, instr, 99–00, acting prof, 00–01, instr. *zool,* 01–05, *assoc. prof, 05–* Teacher ornith, Oberlin, 95–98. F.A.A; fel. Ornith. Union. Bird migration; molting of birds.—Pterylosis and molting of passerine birds; skeleton of Asterias; bird population of Lorain County, Ohio; development of first down and its relation to the definitive feather.

Jones, Prof. Marcus E(ugene), Salt Lake City, Utah. *Botany, Geology.* Jefferson, O, April 25, 52. A.B, Iowa (Grinnell), 75, A.M, 78. Tutor Latin, Iowa (Grinnell), 75–76; prof. nat. science, Colo. Col, 79; Salt Lake Acad, 80; principal, High Sch, Salt Lake City, 81–86; special expert, U. S. Treas. Dept, 89–90; geologist, R. G. W. R. R, 90–93; special field agent, U. S. Dept. Agr, 94–95; geologist, P. and I. N. R. R, 98–99. F.A.A; Utah Nat. Hist. Soc. (pres, 99–) Botany and geology of the Great Plateau. —Climatic distribution; plant adaptation; ore reduction.

Jones, Prof. R(ichard) W(atson), University, Miss. *Chemistry.* Greensville Co, Va, May

16, 37. A.B, Randolph-Macon; A.M, Virginia, 61. Prof. math, Randolph-Macon, 66–68; pres, Female Col, Petersburg, Va, 68–71; Martha Washington, 71–76; prof. chem, Mississippi, and pres, Miss. Indust. Inst. and Col, 76–88; *prof. chem, Mississippi, 89–* LL.D, Mississippi, 81. Chem. Soc; Nat. Geog. Soc; Miss. Hist. Soc. (mem. Board of Directors). Cotton army-worm; cotton boll-worm; chemistry; education.

Jones, Prof. Rufus M(atthew), Haverford, Pa. *Philosophy.* South China, Me, Jan. 25, 63. A.B, Haverford, 85, A.M, 86; Heidelberg, 87; A.M, Harvard, 01. Principal, Oak Grove Sem, Vassalboro, Me, 89–93; *prof. philos. and interpretation of Christianity, Haverford, 93–* Ed, 'Am. Friend,' Phila, 93– Litt. D, Penn. Philos. Ass. New Testament mysticism; the religious position of George Fox.—History of mysticism.

Jones, Dr. Walter, 40 E. 25th St, Baltimore, Md. **Physiological chemistry.* Baltimore, April 28, 65. A.B, Hopkins, 88, Ph.D, 91; Marburg, 99. Prof. nat. science, Wittenberg, 91–92; anal. chem, Purdue, 92–95; asst. *physiol. chem, Hopkins,* 95–99, assoc, 99–01, *assoc. prof, 01–* Assoc. ed, 'Am. Year-book of Med. and Surg.' Physiol. Soc. Sulphonphthaleins derived from orthosulphoparatoluic acid; a reduction product of orthosulphobenzoic chlorid; methylquinolin, a constituent of the secretion of the anal glands of mephitis mephitica; the chemistry of the melanins; thymin; the oxidation of native pigments; nucleoproteid of the suprarenal gland; the ferment of the thymus; autodigestion of nucleoproteids; guanase; adenase.

Jones, Dr. William, American Museum of Natural History, New York, N. Y. *Anthropology.* Near Sauk and Fox Agency, Ind. T, March 28, 74. A.B, Harvard, 00; A.M, Columbia, 01, Ph.D, 04. *Research asst, Carnegie Inst, 04–* On expeditions for Am. Mus. Nat. Hist, summers, 02, 03, 04. Fel. Ethnol. Soc. Religion of the central Algonkin Indians; Algonkin languages.—Religion of the Ojibwas and of the Sauks and Foxes.

Jones, Dr. W(illiam) A(pp), Ludlow St, Stamford, Conn. *Chemistry.* Hillsboro, N. C, Nov. 24, 73. A.B, Wake Forest, 93, A.M, 97; fellow, Hopkins, 97–98, Ph.D, 98. *Representative of pres. of Boston Artificial Leather Co, and Celluloid Zapon Co, 99–* Chem. Soc. Carbonyl cuprous chlorid; action of ozone, etc, on carbon monoxid.

Jones, W(illiam) J(ames), Jr, 10 Main St, West Lafayette, Ind. *Chemistry.* Watseka, Ills, Dec. 9, 70. B.S, Purdue, 91, M.S, 92, A.C, 99. Asst. chem, Purdue, 91–92; asst. state chemist, *Ind,* 92–01, *chief deputy state chemist, 01–; asst. chemist, Purdue Agr. Exp. Sta, 02–* Chem. Soc; Soc. Chem. Indust; Ind. Acad. The effect of time, temperature and concentration upon the solubility of phosphates in ammonium citrate, citric acid and ammonia.

Jordan, Dr. David S(tarr), Stanford University, Cal. **Ichthyology.* Gainesville, N. Y, Jan. 19, 51. M.S, Cornell, 72; M.D, Ind. Med. Col, 75; Ph.D, Butler, 78. Instr. bot, Cornell, 71–72; prof. nat. hist, Lombard, 72–73; principal, Col. Inst, Appleton, Wis, 73–74; lecturer marine bot, Anderson Sch, Penikese, 74; teacher nat. hist, High Sch, Indianapolis, 74–75; prof. biol, Butler, 75–79; zool, Indiana, 79–85, *pres,* 85–91; *Stanford, 91–* Asst, U. S. Fish Commission, 77–91; U. S. commissioner in charge fur seal investigations, 96–98; investigations of waters of Alaska, Hawaii and the South Sea Islands, 01– LL.D, Cornell, 86; Hopkins, 01. F.A.A. (v. pres, 01); mem. Ornith. Union; Philos. Soc; Wash. Acad; Cal. Acad. (pres, 96–98, 01–). Fishes.—Fishes of Alaska, West Indies, Hawaii, Japan, the Philippines and Samoa.

Jordan, Prof. Edwin O(akes), 5720 Woodlawn Ave, Chicago, Ills. **Bacteriology.* Thomaston, Me, July 28, 66. B.S, Mass. Inst. Tech, 88; fellow, Clark, 90–92, Ph.D, 92; Pasteur Inst, Paris, 96. Chief asst. biologist, Mass. State Board of Health, 88–90; assoc. anat, *Chicago,* 92–93, instr, 93–95, asst. prof. *bacter,* 95–00, *assoc. prof, 00–* Joint ed, 'Jour. of Infectious Diseases'; chief, Serum Div, Mem. Inst. for Infectious Diseases. F.A.A; Soc. Nat; Soc. Bact. (pres, 05); Ass. Path. and Bact; Physiol. Soc; Soc. Exp. Biol. and Med; Pub. Health Ass. Bacterial products; biology of water bacteria; self-purification of streams; nitrification.—Hemolysis; dentrification; biology of water bacteria.

Jordan, Dr. W(hitman) H(oward), Geneva, N. Y. *Animal nutrition.* Raymond, Me, Oct. 27, 51. B.S, Maine, 75; Cornell, 77–78; M.S, Maine, 78. Asst, Chem. Lab, Conn. Agr. Exp. Sta, 78–79; instr. agr. and agr. chem, Maine, 79–80; prof. agr. chem, Pa. State, 81–85; *director,* Me. Agr. Exp. Sta, 85–96; *N. Y. Agr. Exp. Sta, 96–* Hon. Sc.D, Maine, 96. F.A.A; Soc. Prom. Agr. Sci. Loss of proteids in silo fermentation; digestibility of various feeding stuffs; metabolic nitrogen in feces; the economy of a free use of milk in the human dietary; influence of the food upon the composition of the animal body; the food sources of milk fat.—The metabolism and function of the organic phosphorous compounds in animal foods.

Joslin, Dr. Elliott P(roctor), 81 Bay State Road, Boston, Mass. *Medicine, Physiological chemistry.* Oxford, Mass, June 6, 69. A.B, Yale, 90, Ph.B, 91; M.D, Harvard, 95. Asst. physiol. chem, *Harvard Med. Sch,* 98–00, *theory and practise of med,* 00–05, *instr, 05–* Physician to outpatients, Boston City Hosp; visiting physician, House of the Good Samaritan, Boston. Am. Physicians; Mass. Med. Soc. Influence of bile on metabolism; diabetes mellitus.—Acid intoxication in diabetes mellitus.

Joüet, Dr. Cavalier H(argrave), Roselle, N. J. *Chemistry.* Melford Station, Elizabeth, N. J, Nov. 7, 60. Ph.B, Columbia, 82, Ph.D, 95. Chemist, various companies, 82–97; instr. chem, Newark Tech. Sch, 97–99; asst. *anal. chem, Columbia,* 97–00, lecturer, 00–01, *tutor,*

01– Chem. Soc; Min. Eng; Soc. Chem. Indust. Bibliography of thorium; the cretaceous clays of Long Island; thorium and rare earths.

Judd, Prof. Charles H(ubbard), Yale Station, New Haven, Conn. **Psychology.* Bareilly, British India, Feb. 20, 73. A.B, Wesleyan, 94; Ph.D, Leipzig, 96. Instr. philos, Wesleyan, 96–98; prof. exp. psychol, N. Y. Univ, 98–01; psychol. and pedag, Cincinnati, 01–02; instr. *psychol, Yale,* 02–04, *asst. prof, 04–* Ed, 'Mon. Supplements, Psychol. Rev'; 'Studies from Psychol. Lab. of Yale Univ.' F.A.A; Soc. Nat; Psychol. Ass; Philos. Ass. Variation and nature of visual perceptions; mental development.—Geometrical illusions by photographic methods; visual control of tactual localization; relation of movement to consciousness.

Julian, Frank, P. O. Box 3, St. Paul, Minn. *Chemistry.* Lancaster, O, Oct. 2, 59. Certificate in chem, Pennsylvania, 80. *Chemist,* Wood Chem. Co, 81–83; Lumberman's Mining Co, 83–86; Ills. Steel Co, 86–96; *Great Northern R. R, 96–* Chem. Soc. Chemistry of iron, steel and railway materials.

Julien, Dr. Alexis A(nastay), Columbia University, New York, N. Y. **Petrography.* New York, Feb. 13, 40. A.B, Union, 59, A.M, 64; Ph.D, N. Y. Univ, 82. *Curator geol, Columbia, 97–* F.A.A. (sec'y, E, 83); Geol. Soc; fel. N. Y. Acad; N. Y. Micros. Soc; N. Y. Miner. Club. Petrography; building stone; processes for preservation of building materials.—Classification of rocks; sand; building stones; fossil bacteria.

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Kahlenberg, Prof. Louis, 234 Lathrop St, University Heights, Madison, Wis. **Physical chemistry.* Two Rivers, Wis, Jan. 27, 70. B.S, Wisconsin, 92, fellow, 92–93, M.S, 93; Ph.D, Leipzig, 95. Instr. chem, *Wisconsin,* 95–97, asst. prof. *physical chem,* 97–00, *prof, 00–* Asst, U. S. Geol. Surv, summer, 91; reviewer, 'Jour. Physical Chem,' 99– F.A.A; Chem. Soc; Electrochem. Soc (v. pres, 02–04); Wis. Acad; Wash. Acad. The chemical, physical and physiological nature and action of solutions; solubility, electrolytic conduction and chemical action in liquid hydrocyanic acid, etc; specific and latent heat of evaporation of various liquids; the specific inductive capacities of various solvents containing sulphur.—Vapor tensions of solutions; osmotic studies; electrolytic conduction and electrolysis.

Kain, Samuel W, 40 Leinster St, St. John, N. B, Can. *Archeology.* St. John, Jan. 13, 64. *Deputy collector of customs, St. John, 03–* N. B. Nat. Hist. Soc. (curator). Archeology; prehistoric implements of New Brunswick; ancient Indian pipes and relics of early French period.—Ancient pottery of New Brunswick.

Kanolt, Dr. C(larence) W(hitney), 271 Fourth St, Jersey City, N. J. *Physical chemistry.* Susquehanna, Pa, Aug. 14, 80. B.S, Columbia, 02, Ph.D, 05; Berlin, 05; Barnard fellow, Columbia, 05– Assoc. mem. Physical Soc. Combination of a solvent with the ions.

Kasner, Dr. Edward, Columbia University, New York, N. Y. **Mathematics.* New York, April 2, 77. B.S, Col. City of N. Y, 96; A.M, Columbia, 97, Ph.D, 99; Göttingen, 99–00. Tutor *math, Columbia,* 00–05, *instr, 05–* F.A.A; Math. Soc. (asst. sec'y, 01–02, assoc. ed, 'Trans,' 03–). Theory of invariants; modern geometry.—Multiple forms; geometry of differential equations and transformations; trajectories of dynamics.

Kastle, Prof. J(oseph) H(oeing), Hygienic Laboratory, U. S. Public Health and Marine Hospital Service, Washington, D. C. **Chemistry.* Lexington, Ky, Jan. 25, 64. Ky. State, 79–84; B.S, Hopkins, 84, M.S, 86, fellow, 87–88, Ph.D, 88. Lecture asst. chem, Hopkins, 86–87; prof, Ky. State, 88–05; *chief, Div. Chem, Hygienic Lab, U. S. Pub. Health and Mar. Hosp. Service, 05–* Chem. Soc. Chemistry of metals; pure and physiological chemistry; studies in allotropism; kinetics of oxidation; affinity of acids; color of halides and salts; hydrates; action of light; ferments, lipase, invertase and the oxidases; oxidation and reduction in animal organism; tribromphenylbromid; nitrification and denitrification.

Kauffman, Calvin H(enry), 630 S. 12th St, Ann Arbor, Mich. *Botany.* Lebanon, Pa, March 10, 69. Palatinate, 90–92; A.B, Harvard, 96; Wisconsin, 01–02; Cornell, 02–04. Principal, Prep. Sch, Lebanon, Pa, 97–98; teacher science, High Sch, Decatur, Ind, 98–00; Nor. Col, Bushnell, Ills, 00–01; asst. *bot,* Cornell, 02–04; *instr, Michigan, 04–* Chem. Soc. Cortinarius; Michigan Fungi.—Biology of Saprolegniaceae; mycology.

Kay, Prof. G(eorge) F(rederick), Lawrence, Kas. *Geology, Mineralogy.* Virginia, Ont, 73. A.B, Toronto, 00, A.M, 02; fellow, Chicago, 03–04. Principal pub. schools, Zephyr, Ont, 92–94; geologist, Lake Superior Power Co, Sault St. Marie, 00–02; *asst. prof. geol. and miner, Kansas, 04–* Asst, Ont. Bur. Mines, 02.

Kearney, Thomas H, U. S. Department of Agriculture, Washington, D. C. **Physiological botany.* Cincinnati, O, June 27, 74. Tennessee, 90–92; Columbia, 93–94. Asst. botanist, Tenn. Agr. Exp. Sta, 92–93; curator, Herbarium, Columbia, 94; *asst.* agrost, later bot. and *veg. physiol, U. S. Dept. Agr, 94–* F.A.A; assoc. Bot. Soc; Soc. Plant Morph. and Physiol; Forestry Ass; Geog. Ass; Torrey Bot. Club; Wash. Bot. Soc; Wash. Biol. Soc. Ecology of strand and swamp vegetations; relations of alkali soils to vegetation.—The breeding of races of cultivated plants adapted to saline soils; the physiological effect upon plants of various salts of alkalies and alkali earths.

Keasbey, Prof. Lindley M(iller), University of Texas, Austin, Tex. *Economics.* Newark, N. J, Feb. 24, 67. A.B, Harvard, 88; Ph.D, Columbia, 90; R.P.D, Strasburg, 92. *Prof.* econ.

and polit, Colorado, 92–94; econ, Bryn Mawr, 94–05; *econ. and polit, Texas, 05–* F.A.A; Econ. Ass; Philos. Soc; Am. Hist. Ass; Anthrop. Ass; Oriental Soc. Interoceanic communication and isthmus transit.—The economic antecedents of civilization; economic geography; economics of religion.

Kebler, Lyman F(rederic), Bureau of Chemistry, U. S. Department of Agriculture, Washington, D. C. *Chemistry.* Lodi, Mich, June 8, 63. Ph.C, Michigan, 90, B.S, 91, M.S, 92. Instr. chem, Iowa State, 88–89; Michigan, 91–92; chief chemist, Smith, Kline and French Co, mfg. chemists, Phila, 92–03; *chief, Drug Lab, Bur. Chem, U. S. Dept. Agr, 03–* Mem. Jury of Awards, Nat. Export Expos, 98. Chem. Soc; Soc. Chem. Indust; Pharmaceut. Ass; Nat. Col. Pharm; Franklin Inst. Chemical, pharmaceutical, medicinal and commercial value of drugs.—Purity of chemical reagents; methods of assaying drugs; American and Norwegian codliver oils; purity of drugs.

Keen, Prof. W(illiam) W(illiams), 1729 Chestnut St, Philadelphia, Pa. *Surgery.* Philadelphia, Jan. 19, 37. A.M, Brown, 59; M.D, Jefferson Med. Col, 62. *Prof. surg,* Woman's Med. Col, 84–89; *Jefferson Med. Col, 89–* LL.D, Brown, 91; Northwestern, 03; Toronto, 04; Edinburgh, 05. First Egyptian Med. Cong, 02 (hon. pres.); Triennial Cong. Am. Physicians and Surg. (pres, 03). Surg. Ass. (pres, 98); Am. Med. Ass. (pres, 99); Philos. Soc; Am. Acad; Phila. Acad; Wash. Acad; Phila. Co. Med. Soc. (pres, 89, 90); Phila. Col. Physicians (pres, 00); London Clin. Soc; hon. fel. Royal Col. Surg; hon. fel. Edinburgh Royal Col. Surg; Chirurg. Gesell; Soc. Belge de Chirurg; Soc. de Chirurg. de Paris; Soc. française d'Urol. General surgery; surgery of the brain, spinal cord and nerves.

Keep, William J(ohn), 753 Jefferson Ave, Detroit, Mich. *Engineering.* Oberlin, O, June 3, 42. Oberlin; C.E, Union, 65. Foreman, Hubbell and Bro, stove mfrs, 65–68; *supt,* Fuller Warren and Co, Troy, N. Y, 68–75; W. J. Keep, stove mfrs, 75–84; *Mich. Stove Co, 84–* Manufacturer various kinds of testing machines; lecturer steam machinery, Rensselaer, 76–78. F.A.A; Mech. Eng. (v. pres, 04–06); Min. Eng; Am. Foundrymen's Ass; Franklin Inst; Detroit Eng. Soc. (pres, 01); hon. mem. Rensselaer Soc. Eng; Int. Ass. Testing Materials; Gt. Britain Iron and Steel Inst. Cast iron.

Keffer, Prof. Charles A(lbert), University of Tennessee, Knoxville, Tenn. *Horticulture, Forestry.* Des Moines, Ia, June 11, 61. Iowa State, 83. Prof. bot. and hort, S. Dak. Agr. Col, 87–91; hort. and forestry, Missouri, 91–95; asst. chief, Div. Forestry, U. S. Dept. Agr, 95–99; *prof.* agr. and hort, N. Mex. Col. Agr. and Mech. Arts, 99–00; *hort. and forestry, Tennessee, 00–* Forestry Ass; Pomol. Soc; Tenn. Forestry Ass; Ills. Hort. Soc; Tenn. Hort. Soc. Early growth of the apple tree; diseases of fruits and remedies; tillage.

Keiller, Prof. W(illiam), 1427 Ave. S, Galveston, Tex. **Anatomy.* Midlothian, Scotland, July 4, 61. Licentiate, Royal Col. Physicians and Surg, Edinburgh and Glasgow, 88, fellow, 90. Lecturer *anat, Sch. Med,* Edinburgh, 89–90; *prof, Texas, 91–* Ass. Anat; fel. Tex. Acad; fel. Edinburgh Obstet. Soc. Anatomy; surgical anatomy.

Keiser, Prof. Edward H(arrison), Washington University, St. Louis, Mo. **Chemistry.* Allentown, Pa, Nov. 20, 61. B.S, Swarthmore, 80, M.S, 81; Ph.D, Hopkins, 84. Instr. *chem,* Swarthmore, 80–81; Hopkins, 84–85; *prof,* Bryn Mawr, 85–99; *Washington (St. Louis), 99–* Chem. Soc; Soc. Chem. Indust; Philos. Soc; St. Louis Acad; Chem. Gesell. Acetylene derivatives; atomic weights; analytical methods.—Acetylene derivatives; constitution of Portland cements.

Keith, Arthur, 2110 20th St, Washington, D. C. **Geology.* St. Louis, Mo, Sept. 30, 64. A.B, Harvard, 85, A.M, 86. Asst, *U. S. Geol. Surv,* 87–94, *geologist, 94–* Geol. Soc; Nat. Geog. Soc; Wash. Acad; Wash. Geol. Soc. Stratigraphic and structural geology in the Appalachians.

Keith, Miss Marcia A(nna), Braintree, Mass. *Physics.* Brockton, Mass, Sept. 10, 59. B.S, Mt. Holyoke, 92; Worcester, 89; Berlin, 97–98. Teacher, pub. schools, Mass, 76–79; instr. sciences, Mich. Sem, 83–85; math, Mt. Holyoke, 85–88, head, Dept. Physics, 89–03. M.A.A; Physical Soc.

Keith, Dr. N(athaniel) S(hephard), Arlington, N. J. *Electrochemistry, Metallurgy.* Boston, Mass, July 14, 38. M.D, N. Y. Univ, 59. Chemist and mining engineer, Colo, 60–69; *inventor in chem, metal. and elec, 61–* Scientific ed, 'Electrical World,' 84. Mem. Int. Conf. of Electricians, Phila, 84; Chicago, 93. Elec. Eng. (organizer and past sec'y); Min. Eng; Electrochem. Soc. Properties of ores and obtaining their constituents.

Keith, Simeon C(urtis), Jr, 20 Highland Ave, Somerville, Mass. *Bacteriology.* East Bridgewater, Mass, July 10, 71. B.S, Mass. Inst. Tech, 93. Asst. *biol, Mass. Inst. Tech,* 93–94, *instr, 95–* Soc. Nat; Mass. Inst. Tech. Soc. Arts. Intestinal bacteria of domesticated animals; dairy bacteriology, especially in relation to butter and cheese culture.

Keller, Dr. Edward, 21 W. Franklin St, Baltimore, Md. *Chemistry, Metallurgy.* Sauk City, Wis, March 10, 57. Polytech, Stuttgart, 77–79; Ph.D, Zürich, 81. *Representative, Anaconda Copper Mining Co, 93–* F.A.A; Min. Eng; Chem. Soc; Electrochem. Soc. Magnetic oxid in copper mattes; distribution of precious metals and impurities in copper; elimination of impurities from copper; electrolysis and refining of copper; labor saving appliances in the chemical works laboratory.—Solution of metals and metalloids in metals; phenomena of segregation.

Keller, Prof. H(arry) F(rederick), 512 N. 34th St, Philadelphia, Pa. *Chemistry, Mineralogy.*

Philadelphia, Dec. 15, 61. B.S, Pennsylvania, 81; Ph.D, Strasburg, 88. Asst. chem, Pennsylvania, 83–86, instr. org. chem, 88–90; *prof. chem*, Mich. Col. Mines, 90–92; *Central High Sch, Phila, 92–* Chemist, Edgemoor Iron Works; chemist and assayer, various smelting works in Colo. Chem. Soc; Philos. Soc; Franklin Inst; Chem. Gesell. Mineral species (discovery of lillianite); diacetyl and derivatives; analytical methods.—Dimethyl racemic acid; some copper minerals.

Keller, Dr. Ida A(ugusta), 4823 Springfield Ave, Philadelphia, Pa. *Plant physiology.* Darmstadt, Germany, June 11, 66. Pennsylvania, 84–86; Leipzig, 87–89; Ph.D, Zürich, 90. Asst. bot, Bryn Mawr, 86–87, lecturer, 91–93; teacher chem, *Phila. High Sch. for Girls*, 93–98, *head of Chem. and Biol. Departments, 98–* Mem. Advisory Committee, Int. Plant Breeding Conf, 02. Soc. Nat; hon. mem. Pa. Hort. Soc. (prof. biol.); Phila. Acad; Phila. Bot. Club (v. pres, 00–); Ass. Col. and Prep. Sch. of Middle States and Md. (v. pres, 95–96). Plant physiology; fertilization.

Kellerman, Karl F(rederic), Bureau of Plant Industry, Washington, D. C. *Plant physiology.* Göttingen, Germany, Dec. 9, 79. Ohio State, 96–99; B.S, Cornell, 00. Asst. bot, Cornell, 00–01; scientific aid, *U. S. Dept. Agr*, 01–02, scientific asst, 02–04, asst. physiologist, 05, *physiologist in charge, Lab. Plant Physiol, 05–* Soc. Plant Morph. and Physiol; Bot. Soc; Soc. Bact; Wash. Biol. Soc; Wash. Bot. Club. The physiology of lower plants, especially in connection with water supplies; soil bacteriology.—Life history of some soil organisms; physiological effect of copper in water.

Kellerman, Dr. W(illiam) A(shbrook), Ohio State University, Columbus, O. **Botany.* Ashville, O, May 1, 50. B.S, Cornell, 74; Ph.D, Zürich, 81. Teacher nat. science, Wis. Nor. Sch, 74–79; *prof. bot*, Kas. State Agr. Col, 83–91; *Ohio State, 91–* Botanist, Kas. Board Agr; Kas. Exp. Sta; Ohio Geol. Surv; ed, 'Jour. Mycol'; 'Mycol. Bul.' F.A.A. (sec'y, G, 99); Bot. Soc; Mycol. Soc; Ohio Acad. (past pres.). Smuts and rusts.—Life histories of heterœcious Uredineae; Guatemalan fungi.

Kellicott, Dr. W(illia)m E(rskine), Barnard College, Columbia University, New York, N. Y. *Zoology.* Buffalo, N. Y, April 5, 78. Ph.B, Ohio State, 98; Ph.D, Columbia, 04. Asst. *zool, Barnard, Columbia*, 01–02, tutor, 02–05, *instr, 05–* N. Y. Acad. Vertebrate morphology and embryology.—Vertebrate embryology.

Kellogg, Prof. James L(awrence), Williamstown, Mass. **Biology.* Kewanee, Ills, Sept. 15, 66. B.S, Olivet, 88; Ph.D, Hopkins, 92. Prof. *biol*, Olivet, 92–99; asst. prof, *Williams*, 99–02, *prof, 02–* Instr, Woods Hole, 92–95; investigator, U. S. Fish Commission, 89–91, 96–98; State of Louisana (oysters), 04. Soc. Nat; Soc. Zool. Lamellibranchs.

Kellogg, Dr. Oliver Dimon, 151 Little Hall, Princeton, N. J. *Mathematics.* Linwood, Pa, 78. A.B, Princeton, 99, J.S.K. fellow, 99–02, A.M, 00; Ph.D, Göttingen, 02. *Instr. math, J. C. Green Sch. of Sci, Princeton, 02–* Math. Soc. Function theory; functional equations.—The groups of linear differential equations.

Kellogg, Prof. Vernon L(yman), Stanford University, Cal. * *Zoology, Entomology.* Emporia, Kas, Dec. 1, 67. B.S, Kansas, 89, M.S, 92; Cornell, 91–92; Leipzig, 93–94. Asst. prof. *entom*, Kansas, 90–93, assoc. prof, 93–94; asst. prof, *Stanford*, 94–95, assoc. prof, 95–96, *prof, 96–* Asst, Samoan Explorations, U. S. Fish Commission, 02. F.A.A; assoc. Ass. Econ. Entom; Kas. Acad; Cal. Acad; Wash. Acad; Entom. Gesell; Soc. entom. de France. Classification and distribution of the Mallophaga; morphology and development of mouth parts of insects; classification, structure and life history of Blepharceroidae; the scales of the Lepidoptera; phagocytosis in insects.—Variation and heredity in insects.

Kelly, Dr. A(loysius) O(liver) J(oseph), 1911 Pine St, Philadelphia, Pa. *Medicine, Pathology.* Philadelphia, June 13, 70. A.B, La Salle, 88, A.M, 91; M.D, Pennsylvania, 91; Vienna, 92–94, 97. Instr. physical diagnosis, *Pennsylvania*, 96–99, clin. med, 99–02, *assoc. med, 02–, asst. physician, Univ. Hosp, 99–; physician, St. Agnes' Hosp, Phila, 96–; pathologist, German Hosp, 97–; clin. prof. path, Woman's Med. Col. of Pa, 97–; prof. theory and practise of med, Vermont, 00–* Director, Neur, Path. and Bacter. Laboratories, Phila. Polyclinic and Col. for Graduates, 95–98; ed, 'Int. Clinics,' 03– Am. Physicians; Ass. Path. and Bact; Am. Med. Ass; fel. Am. Acad. Med; fel. Phila. Col. Physicians; Phila. Co. Med. Soc; Phila. Path, Pediat. and Neur. Societies; Interurban Clin. Club. Disorders of cardiovascular system; tumors, especially of the kidney and of endothelial origin; pathology and bacteriology of appendicitis; nephritis; cirrhosis of the liver; infections of the biliary tract.

Kelly, Prof. H(arry) M(cCormick), 613 Fifth Ave, Mount Vernon, Ia. *Zoology.* Harrisburg, Pa, May 27, 67. A.B, Bucknell, 88, A.M, 91; A.B, Harvard, 91, A.M, 93. Asst. zool, Harvard, 91–93; instr. *biol*, Northwestern, 93–94; *prof, Cornell (Ia.), 94–* Soc. Nat; Iowa Acad. Parasites of the Unionidae.

Kelly, Prof. Howard A(twood), 1406 Eutaw Place, Baltimore, Md. *Gynecology.* Camden, N. J, Feb. 20, 58. A.B, Pennsylvania, 77, M.D, 82. Assoc. prof. obstet, Pennsylvania, 88–89; *prof.* gynec. and obstet, *Hopkins*, 89–99, *gynec. and gynec. surgeon, Hopkins Hosp, 99–* Fel. Gynec. Soc; Nat. Geog. Soc; Wash. Acad; hon. fel. British, Edinburgh and Glasgow Gynec. and Obstet. Societies; hon. fel. Edinburgh Royal Col. Surg; hon. fel. Irish Royal Acad. Med; assoc. for. mem. Soc. d'Obstét. de Gynéc. et de Pediat. de Paris; for. cor. mem. Soc. de Chirurg. de Paris; Ass. française d'Urol; cor. mem. Leipzig Gesell. für Geburtshülfe; cor. mem. Vienna Royal Soc. Physi-

cians; hon. mem. Soc. Ital. di Ostet. e Ginec. Operative gynecology.

Kelly, Dr. John F(orrest), 284 W. Housatonic St, Pittsfield, Mass. *Electrical engineering.* Carrick-on-Suir, Ireland, March 28, 59. B.S, Stevens, 78, Ph.D, 81. Lab, Western Elec. Co, 79–82; Edison Lab, 79; Weston Lab, U. S. Elec. Lighting Co, 82–86, chief electrician, 86–92; Stanley Lab. Co, 92–95; *consulting elec. engineer, 95–* M.A.A; Elec. Eng; Statist. Soc; Econ. Ass; Acad. Polit. and Social Soc; British Inst. Elec. Eng; London Soc. Arts; Soc. Int. des Elec. The commercial utilization of electricity and magnetism.

Kemp, Dr. George T(heophilus), Hotel Beardsley, Champaign, Ills. **Physiology, Histology.* Baltimore, Md, Nov. 7, 61. Baltimore City Col, 76–81; A.B, Hopkins, 83, fellow, 85, Ph.D, 86, fellow by courtesy, 87; M.D, Long Isl. Col. Hosp, 91. Demonstrator physiol, Pennsylvania, 86; assoc. director physiol. and bacter, Hoagland Lab, 88–93; *prof. physiol, Illinois, 97–* Lecturer physiol, Long Isl. Col. Hosp, 93; electro-therapeutist, Dept. of Gynec, physician to out-door clinic, Brooklyn Eye and Ear Hosp. Soc. Nat; Physiol. Soc; Ass. Anat; assoc. Am. Med. Ass; Brooklyn Path. Soc. Blood-plates; nerve and muscle physiology, especially the separation of motor and trophic nerves; black vomit of yellow fever; nitrous oxid anesthesia. —Relation of blood-plates to hematogenesis and to coagulation; influence of curare on muscle metabolism; poisons isolated from cultures of bacillus typhosus; physiological influences of altitude, especially on the blood.

Kemp, Prof. James F(urman), 211 W. 139th St, New York, N. Y. **Geology.* New York, Aug. 14, 59. A.B, Amherst, 81; E.M, Columbia, 84; Munich, 85–86. Instr. *geol,* Cornell, 86–88, asst. prof, 88–91; adj. prof, *Columbia,* 91–92, *prof, 92–* Assoc. ed, 'Jour. für Praktische Geol'; 'Sch. of Mines Quarterly'; 'Econ. Geol'; geologist, U. S. Geol. Surv; N. Y. Geol. Surv; manager, N. Y. Bot. Garden and sec'y, Board Scientific Directors. F.A.A. (v. pres, 00); Geol. Soc. (manager, 05–); Min. Eng. (director, manager, 96–99, v. pres, 03–05); Nat. Geog. Soc; fel. N. Y. Acad. (pres, 05); Wash. Acad; Wash. Geol. Soc; cor. mem. Christiania Soc. Sci. Ore deposits; crystalline rocks; economic geology; igneous iron ores in Wyoming.—Several eruptive areas; Adirondack geology; several mining districts.

Kendall, Dr. W(illiam) C(onverse), 1427 Q St, N. W, Washington, D. C. *Zoology.* Freeport, Me, April 4, 61. A.B, Bowdoin, 85, A.M, 90; M.D, Georgetown, 96. Principal pub. schools, Thompson, Minn, 85–87; Acad, Patten, Me, 87–89; *naturalist, U. S. Fish Commission, 89–* Bronze medal, Paris Expos. M.A.A; assoc. Ornith. Union; Fisheries Soc; Wash. Biol. Soc; Me. Ornith. Soc; Wash. Acad; cor. mem. Portland (Me.) Soc. Nat. Hist. Ichthyology. —Geographical distribution and natural history of fishes, especially Salmonidae and allied forms.

Kendrick, Arthur, 45 Hunnewell Ave, Newton, Mass. *Physics.* Nashua, N. H, March 30, 65. A.B, Amherst, 87; A.M, Harvard, 91; Göttingen, 99–00. Teacher science, Leicester Acad, Mass, 87–90; asst. physics, Harvard, 92–93; asst. prof, Worcester, 93–96; assoc. prof, Rose, 96–01; *mfr. scientific and engineering apparatus, 01–* F.A.A.

Kennedy, Prof. P(atrick) Beveridge, 303 Elm St, Reno, Nev. *Botany, Horticulture, Forestry.* Mt. Vernon, Scotland, June 17, 74. Ont. Agr. Col, 92; B.A.S, Toronto, 94; Ph.D, Cornell, 99. Asst. chemist, Ont. Agr. Col, 95; asst, Div. Agrost, U. S. Dept. Agr, 99, expert in charge exp. work, 00; asst. prof. *bot, hort. and forestry, Nevada, and Nev. Agr. Exp. Sta,* 00–02, *prof, 02–* M.A.A; Breeders' Ass; Nev. Acad. The begonia; genera of grasses; forage plants; horticulture and flora of Nevada.—Forage plants for range improvement; horticulture in Nevada; flora of Nevada; relation of forest cover to water supply; the genus Trifolium.

Kennelly, Prof. A(rthur) E(dwin), Harvard University, Cambridge, Mass. **Electrical engineering.* Colaba, Bombay, India, Dec. 17, 61. Univ. Col. Sch, London, 72–75. Electrician, Eastern Teleg. Co, London, 76–86; principal elec. asst. to Thomas A. Edison, 86–94; consulting engineer, Philadelphia, 94–02; *prof. elec. eng, Harvard, 02–* Consulting elec. engineer, Gen. Elec. Co, 90–94; mem. Elec. Juries, Phila. Export Expos, Pan-Am. Expos. and La. Purchase Expos. Two premiums of merit, British Inst. Elec. Eng; hon. Sc.D, Western Univ. of Pa. Int. Elec. Cong, Paris, 00 (v. pres.); St. Louis, 04 (gen. sec'y). F.A.A; Elec. Eng. (past pres.); Math. Soc; Physical Soc; hon. fel. Electro-Therap. Ass; Philos. Soc; Pacific Astron. Soc; Franklin Inst; hon. mem. N. Y. Elec. Soc; fel. Royal Astron. Soc; British Inst. Elec. Eng. Electrical engineering; magnetics in engineering; alternating electric currents.

Kennicott, Cass L(angdon), 218 W. 65th St, Chicago, Ills. *Chemistry.* Chicago, Feb. 25, 71. Case, 93. Chemist, Nelson Morris and Co, Chicago; Dept. of Health; Consumers Ice Co; city chemist, Chicago; *v. pres. and gen. manager, Kennicott Water Softener Co.* Chem. Soc; Chicago Acad; Chicago Ry. Club; fel. London Chem. Soc. Milk analysis; water analysis; dust explosions; water softening.—Methods of mineral water analysis.

Kent, Prof. Norton A(dams), Wabash College, Crawfordsville, Ind. *Physics.* New York, N. Y, July 28, 73. A.B, Yale, 95; Ph.D, Hopkins, 01. Asst, Yerkes Observatory, 01–03; *prof. physics, Wabash, 03–* M.A.A; Physical Soc; Astron. and Astrophys. Soc; Ind. Acad. Zeeman effect; electric spark in liquids and in air at high pressure; shift of spark lines due to changed conditions.

Kent, Prof. William, Syracuse University, Syracuse, N. Y. *Mechanical engineering.* Philadelphia, Pa, March 5, 51. A.B, Central High Sch, Phila, 68; Cooper Union, 72; A.M, Cen-

tral High Sch, Phila, 73; M.E, Stevens, 76. Bookkeeper, 68–74; ed, 'Am. Manufacturer,' 77–79; supt, manager and mech. engineer in iron, steel and boiler works, 79–85; sec'y and gen. manager, Springer Torsion Balance Co, Jersey City, 85–90; consulting engineer, 90–03; *prof. mech. eng. and dean, Col. Applied Sci, Syracuse, 03–* Lecturer, Newark Tech. Sch, 92–99; assoc. ed, 'Eng. News,' 95–03; mem. N. J. State Commission on Pollution of Streams, 98–99. Hon. Sc.D, Syracuse, 05. F.A.A. (sec'y, D, 86, 91, v. pres, 95); Min. Eng. (manager, 00–02); Mech. Eng. (v. pres, 88–90); Eng. Educ; Soc. Heat. and Vent. Eng. (pres, 05); Syracuse Tech. Club (pres, 05). Strength of materials; heating value of American coals; efficiency of steam-boilers, boiler furnaces and steam-engines; alloys of copper and tin and of copper and zinc.—Efficiency of steam-heating installations.

Kenyon, Prof. A(lfred) M(onroe), 103 Waldron St, West Lafayette, Ind. *Mathematics.* Medina, O, Dec. 10, 69. A.B, Hiram, 94; A.M, Harvard, 98. Teacher, High Sch, Wellington, O, 94–96; instr. *math, Purdue,* 98–01, assoc. prof, 01–03, *prof, 03–* Instr. math, Case, 97; Mass. Naut. Training Sch, 98. Math. Soc; Ind. Acad.

Kerr, Dr. Abram T(ucker), 61 Waite Ave, Ithaca, N. Y. *Anatomy.* Buffalo, N. Y, Jan. 7, 73. B.S, Cornell, 95; M.D, Buffalo, 97. Acting prof. *anat,* Buffalo, 97–98, adj. prof. and demonstrator, 98–00; asst. prof, *Cornell,* 00–04, *prof, 04–* M.A.A; Ass. Anat; Micros. Soc. Statistical records from the dissecting room; technique; corrosion; anatomy of the kidneys and bladder.—Arrangements and variations of brachial plexus; topography and form of abdominal viscera.

Kerr, Pres. W(illiam) J(asper), Logan, Utah. *Mathematics, College administration.* Richmond, Utah, Nov. 17, 63. Utah, 82–85; Cornell, 90–91, summers, 91, 92, 93. Instr. physiol, geol. and physics, Brigham Young Col, 87–88, math, 88–90, 91–92; prof. math. and astron, Utah, 92–94; *pres,* Brigham Young Col, 94–00; *Utah Agr. Col, 00–* Mem. State Constitutional Convention, 87, 95. Math. Soc; Utah State Teachers' Ass. (pres, 97). Philosophy of mathematics.

Kershner, Prof. Jefferson E, 445 W. Chestnut St, Lancaster, Pa. *Mathematics, Physics.* Berks Co, Pa, Aug. 16, 54. A.B, Franklin and Marshall, 77, A.M, 81; Ph.D, Yale, 85. *Prof. math, physics and astron, Franklin and Marshall, 80–* Consulting engineer; Edison Elec. Illuminating Co, 91–02; Conestoga Traction Co, 02. F.A.A. (sec'y, A, 94); Math. Soc; Astron. and Astrophys. Soc; Elec. Eng. Electricity.

Kester, Prof. F(rederick) E(dward), Ohio State University, Columbus, O. *Physics.* Eaton, O, Feb. 22, 73. M.E, Ohio State, 95, fellow, 95–96; A.M, Cornell, 99; Göttingen, 03–04; Ph.D, Cornell, 05. Asst. *physics, Ohio State,* 96–98, instr, 99–01, *asst. prof, 01–* M.A.A; Physical Soc. Phosphorescence in sulphids; Joule-Thomson effect in CO_2.—Joule-Thomson effect in various gases.

Keyes, Prof. Charles R(ollin), Socorro, N. Mex. **Geology.* Des Moines, Ia, Dec. 24, 64. B.S, Iowa, 87, A.M, 90; fellow, Hopkins, 90–92, Ph.D, 92. Asst, U. S. Geol. Surv, 89–91; asst. state geologist, Ia, 92–94; director, Bur. Geol. and Mines, Mo, 94–97; *pres, N. Mex. Sch. of Mines, 02–* Consulting mining engineer, 88– Geol. Soc; Min. Eng. Genesis of ore deposits; orotaxial method of geologic correlation.—Metallic content of rocks; physical methods of exact geologic correlation.

Keyser, Dr. C(assius) J(ackson), Columbia University, New York, N. Y. **Mathematics.* Rawson, O, May 15, 62. Ohio Nor. Univ, 79–83; B.S, Missouri, 92; Michigan, summer, 94; A.M, Columbia, 96, fellow, 96–97, Ph.D, 02. Supt. pub. schools, 85–89; prof. *math,* State Nor. Sch, New Paltz, N. Y, 92–94; instr, Smith Acad, Washington (St. Louis), 94–95; instr, Barnard, and tutor, *Columbia,* 97–00, instr, 00–02, adj. prof, 02–04, *Adrain prof, 04–* Instr. math, State Summer Sch, Kirksville, Mo, 92–93; ed. pure math, 'Encyclop. Americana,' 04–; Am. ed, 'Hibbert Jour.' F.A.A; Math. Soc; Philos. Ass; Ass. Math. Teachers of Middle States and Md; Mo. Valley Teachers' Ass. (pres, 89–90). Positive definitions of finite and infinite assemblage; the angles and the angular determination of planes in 4-space; plane geometry of the point in parabolic space of four dimensions; definitive property of the covariant; the axiom of infinity and mathematical induction; etc.—Theory of assemblages; line-plane theories of 4-space and allied doctrines.

Keyser, Rev. Leander S(ylvester), 108 W. Third St, Canal Dover, O. *Ornithology.* Tuscarawas Co, O, March 13, 56. Ohio Nor. Univ; A.M, Wittenberg, 99. Pastor, LaGrange, Ind, 78–80; Elkhart, Ind, 82–88; Springfield, 88–94; ed, 'Lutheran Evangelist,' 94–97; *pastor,* Col. Church, Atchison, Kas, 97–03; *Lutheran Church, Canal Dover, O, 05–* D.D, Wittenberg. Assoc. Ornith. Union. Theology; ornithology.—Observation of birds in their native haunts.

Kilgore, Prof. B(enjamin) W(esley), Raleigh, N. C. *Chemistry.* Lafayette Co, Miss, March 27, 67. B.S, Miss. Agr. Col, 88, M.S, 91; Hopkins, 96. Asst. chem, Miss. Agr. Col, 88–89; asst. chemist, N. C. Exp. Sta, 89–97; prof. chem, Miss. Agr. Col, 97–99; *state chemist, N. C, 99–, director, Exp. Sta, 01–* Chem. Soc. (chairman, N. C. Sect, 01); Ass. Off. Agr. Chemists (pres, 00). Methods of analysis and value of fertilizers, soils and feeds.

Kimball, Prof. Arthur L(alanne), Amherst, Mass. **Physics.* Succasunna, N. J, Oct. 16, 56. A.B, Princeton, 81; Ph.D, Hopkins, 84. Assoc. and later assoc. prof. *physics,* Hopkins, 84–91; *prof, Amherst, 91–* Mem. Board of Examiners, Phila.

Elec. Expos, 84. F.A.A; Physical Soc. Determination of the unit of electrical resistance.

Kindle, Dr. Edward M(artin), U. S. Geological Survey, Washington, D. C. *Paleontology, Geology.* Franklin, Ind, March 10, 69. A.B, Indiana, 93; M.S, Cornell, 96; Ph.D, Yale, 99. Instr. geol, Indiana, 94–95; asst. state geologist, Ind, 98–01; *asst. geologist, U. S. Geol. Surv, 01–* Volunteer asst, Ark. Geol. Surv, 89; paleontologist, Cornell Exped. to Greenland, 96. M.A.A; Conn. Acad; Wash. Geol. Soc. Devonian fossils and stratigraphy of Indiana; Niagara faunas of Indiana.—Paleozoic faunas of Alaska.

Kinealy, J(ohn) H(enry), 619 Granite Building, St. Louis, Mo. *Mechanical engineering.* Hannibal, Mo, March 18, 64. D.E, Washington (St. Louis), 84. Eng. work, 84–86; instr. mech. eng, Washington (St. Louis), 86–87; assoc. prof, Tex. Agr. and Mech. Col, 87–89; prof, N. C. Col. Agr. and Mech. Arts, 89–92; Washington (St. Louis), 92–02; *mech. engineer and ventilation expert and engineer.* F.A.A; (sec'y, D, 95); Mech. Eng; Eng. Educ; Heat. and Vent. Eng. (past pres.); Franklin Inst; St. Louis Acad; St. Louis Eng. Club (past pres.). Heating and ventilating; the transmission of heat; steam-engines and boilers; centrifugal fans.—Transmission of heat; utilization of steam for heating, drying, etc.

King, Dr. A(lbert) F(reeman) A(fricanus), 1315 Massachusetts Ave, N. W, Washington, D. C. *Medicine.* Oxfordshire, England, Jan. 18, 41. M.D, Columbian, 61; M.D, Pennsylvania, 65. *Prof. obstet, George Washington, 72–; Vermont, 72–* Attending and consulting physician to various hospitals in Washington. Hon. A.M, Vermont, 83, LL.D, 04. F.A.A; Am. Med. Ass; Am. Gynec. and Obstet. Societies; D. C. Med. Soc; Wash. Acad; Wash. Philos, Biol. and Anthrop. Societies; British Gynec. and Obstet. Societies. Mosquital origin of malarial disease; influence of sunlight and ultraviolet rays on the malarial parasite.—Influence of light and scoto-therapy in malarial fevers; import of functional reversion in medical practise; etiology of appendicitis.

King, Dr. Arthur S(cott), University Cottage No. I, Berkeley, Cal. *Experimental physics.* Jerseyville, Ills, Jan. 18, 76. B.S, California, 99, M.S, 01, Ph.D, 03, Whiting fellow (Bonn), 03–04; Berlin, 04–05. Asst. physics, California, 01–03; Carnegie research asst, 04–05; *instr. physics, California, 05–* Effect of changes of physical conditions on arc and spark spectra.—Metallic spectra at high temperatures.

King, Dr. Cyrus A(mbrose), Gresham Court, W. 140th St, New York, N. Y. *Botany.* Plum Tree, Ind, June 19, 67. A.B, Indiana, 93; A.B, Harvard, 97, A.M, 98, Ph.D, 02. Teacher nat. science, High Sch, Decorah, Ia, 93–96; asst. bot, Harvard, 96–00, Radcliffe, 99–00; instr, Indiana, 00–02; *teacher biol, DeWitt Clinton High Sch, N. Y. City, 02–* Asst. bot, Harvard Summer Sch, 97–01; instr. in charge bot, Biol. Sta, Indiana, summer, 02. F.A.A; Nat. Cent. States. Cytology of Araiospora pulchra Thaxter; explosive antherozoids in Conocephalus.—Cytology of Sapromyces and Rhipidium.

King, Edward S(kinner), 15 Walker St, Cambridge, Mass. *Astronomical photography.* Liverpool, N. Y, May 31, 61. A.B, Hamilton, 87, A.M, 90. *Asst, Harvard Col. Observatory, 87–90, 93–* Astron. and Astrophys. Soc. Forms of images in stellar photography; absorption of photographic wedges.—Systematic tests of photographic plates; photographic photometry on a uniform scale; photographic observations of occultations.

King, F(ranklin) H(iram), 1540 University Ave, Madison, Wis. *Agricultural physics.* Walworth Co, Wis, June 8, 48. Cornell, 76–78. Teacher nat. science, High Sch, Berlin, Wis, 73–76; prof, State Nor. Sch, River Falls, Wis, 78–88; agr. physics, Wis. State Univ. Exp. Sta, 88–01; chief, Div. Soil Management, Bur. of Soils, U. S. Dept. Agr, 01–04. With Wis. Geol. Surv, 73; U. S. Geol. Surv, 82; U. S. Dept. Irrig. Investigation, 01. F.A.A; Soc. Prom. Agr. Sci; Nat. Geog. Soc; Wis. Acad; Wash. Philos. Soc. Irrigation and drainage; movement of ground waters; physics of agriculture; soil management.—Soil management.

King, George B, Lawrence, Mass. *Entomology.* Lowell, Mass, Jan. 23, 48. Self-educated. M.A.A; Ass. Econ. Entom; Cambridge Entom. Club; Lawrence Soc. Nat. Hist. The Coccidae of British North America, America, Germany and Switzerland; the Formicidae of Massachusetts.—The larvae of Lecanium, Culecanium and Pulvinaria; the larvae of the Coccidae of Germany and Switzerland.

King, Dr. Helen Dean, Bryn Mawr, Pa. **Biology.* Owego, N. Y, Sept. 27, 69. A.B, Vassar, 92; fellow, Bryn Mawr, 97–98, Ph.D, 99. *Teacher physiol, Miss Baldwin's Sch, Bryn Mawr, 99–* Student asst, Biol. Lab, Byrn Mawr, 99–M.A.A; Woods Hole Biol. Ass. Regeneration of eye of Rana palustris; regeneration in Tubularia crocea; effects of heat on development of toad's egg.—Parthogenetic development of egg of Bufo lentiginosus and of Asterias vulgaris.

King, Dr. Irving, 52 Hinckley Place, Brooklyn, N. Y. *Psychology, Philosophy.* Richmond, Ind, July 17, 74. A.B, Earlham, 96; fellow, Chicago, 01–03, Ph.D, 04. Principal, Tonganoxie Acad, Kas, 96–98; Bloomingdale Acad, Ind, 98–00; *instr. psychol. and hist. of educ, Pratt Inst, 03–* Head, Dept. Pedag, La. State Nor. Sch, spring, 02; Dept. Psychol, State Nor. Sch, Oshkosh, Wis, 03; asst. philos, Chicago, summer, 02. Philosophy; psychology of child development.—The psychological analysis of the religious consciousness; genetic psychology.

Kinghorn, Dr. Hugh M(cLennan), 11 Church St, Saranac Lake, N. Y. *Medicine.* Kingston, Ont, Nov. 9, 69. A.B, McGill, 90, M.D, C.M, 94. Res. physician, Montreal Gen. Hosp, 94–

96; *practising physician.* Acting supt, Montreal Gen. Hosp, 96. Ass. Path. and Bact. Tuberculosis.

Kingsbury, Prof. Albert, Care Westinghouse Electric and Manufacturing Co, Pittsburg, Pa. *Mechanical engineering.* Near Morris, Ills, Dec. 23, 62. Buchtel, 80; Ohio State, 84–85; M.E, Cornell, 89. Supt. machine shops, H. B. Camp Co, Cuyahoga Falls, O, 90–91; prof. mech. eng, N. H. Col. Agr. and Mech. Arts, 91–99; applied mech, Worcester, 99–03; *mech. engineer, Westinghouse Elec. and Mfg. Co, Pittsburg, 03–* F.A.A; Mech. Eng; Eng. Educ. Friction and lubrication; mechanics; steam engineering; tests of lubricating oils.

Kingsbury, Prof. B(enjamin) F(reeman), 404 Oak Ave, Ithaca, N. Y. *Physiology.* St. Charles, Mo, Nov. 18, 72. A.B, Buchtel, 93; Ph.D, Cornell, 96; M.D, Freiburg, 03. Instr. histol, *Cornell,* 96–99, *asst. prof,* 99–01, *physiol, 03–* Colaborator, 'Jour. Comp. Neur'; 'Am. Jour. Anat.' F.A.A; Ass. Anat. Comparative anatomy; neurology; histology.—Physiology.

Kingsford, Dr. H(oward) N(elson), Hanover, N. H. *Pathology, Bacteriology.* Providence, R. I, Sept. 24, 71. Brown, 94; M.D, Dartmouth, 97; Harvard Med. Sch, 98. Instr. *path. and bacter, Dartmouth,* 98–00, *prof, 01–, med. director, 02–* House officer, Hitchcock Hosp, Hanover, 97; Path. Dept, Boston City Hosp, 98; pathologist, Hitchcock Hosp, 02; state bacteriologist, N. H. Ass. Path. and Bact; Am. Med. Ass; N. H. Med. Soc; N. H. Surg. Club; White River (Vt.) Med. Soc. (pres.). Mosquitoes; etiology of cancer; infectious diseases; gall-stones; water pollution; copper sulphate and water supplies; college sanitation.

Kingsley, Prof. J(ohn) S(terling), Tufts College, Mass. **Zoology, Comparative anatomy.* Cincinnatus, N. Y, April 7, 54. A.B, Williams, 75; Sc.D, Princeton, 85; Freiburg, 91–92. *Prof. zool,* Indiana, 87–89; Nebraska, 89–91; *Tufts, 92–* Ed, 'Am. Naturalist,' 86–96. F.A.A; Soc. Nat; Soc. Zool; Ass. Anat; Am. Acad; Wash. Acad; Boston Soc. Nat. Hist. Comparative anatomy and embryology; morphology of vertebrates.

Kinnaman, Dr. A(ndrew) J(aneway), Danville, Ind. *Psychology, Pedagogy.* Logansport, Ind, Feb. 27, 63. Central Nor. Col, 83–85; Sch. of Pedag, N. Y. Univ, 94; A.B, Indiana, 00, A.M, 01; fellow, Clark, 00–02, Ph.D, 02. Teacher, Central Nor. Col, 85–93, instr. pedag. and math, 94–99; v. principal, State Nor. Sch, East Stroudsburg, Pa, 02–03; *pres, Central Nor. Col, 03–* Institute lecturer, Ind, Ky, Del. and Pa. Development of skill in physical control; genesis of voluntary control; comparison of judgments of lifted weights; mental life of two Macacus rhesus monkeys in captivity.

Kinney, Abbot, 514 Stimson Block, Los Angeles, Cal. *Forestry.* Brookside, N. J, Nov. 16, 50. Heidelberg, 66; Paris, 68. With Prof. O. C. Marsh, U. S. Paleont. Surv, 73; Sanitary Commission, Egypt, 77; chairman, Cal. Board of Forestry, 85–88. Chairman, Yosemite Valley Commission, 98; head, Forestry Sch, South. California, 00. Forestry Ass; Nat. Irrig. Ass; S. Cal. Acad. (past pres.). Forestry and forest flora of the Pacific coast; Eucalyptus; human reproduction.—Medical properties of native California plants.

Kinnicutt, Dr. Francis P(arker), 39 E. 35th St, New York, N. Y. *Medicine.* Worcester, Mass, July 13, 46. A.B, Harvard, 68, A.M, 69; M.D, Columbia, 71; Heidelberg, 73; Vienna, 73–74. *Prof. clin. med, Columbia, 93–* Physician, Presbyterian and Cancer Hospitals; consulting physician, St. Luke's Hosp; Woman's Hosp; Hosp. for Ruptured and Crippled; Babies' Hosp; Minturn Hosp. for Contagious Diseases; Gen. Mem. Hosp; mem. Advisory Board of Health Officers, Port of N. Y; Med. Advisory Board, Sailors Snug Harbor, N. Y. Ass. Path. and Bact; Am. Physicians; Am. Med. Ass; N. Y. State Med. Soc; various N. Y. med. societies, Medicine.

Kinnicutt, Prof. Leonard P(arker), 77 Elm St, Worcester, Mass. **Sanitary chemistry.* Worcester, May 22, 54. B.S, Mass. Inst. Tech, 75; Heidelberg and Bonn, 75–79; Hopkins, 79–80; Sc.D, Harvard, 82. Instr. quant. anal, Harvard, 80–83; asst. prof. *chem, Worcester,* 83–86, *prof, 86–, director, Dept. Chem, 92–* Consulting chemist, Conn. Sewage Commission, 03– F.A.A. (v. pres. 04); Soc. Bact; Chem. Soc. (pres, New Eng. Sect, 02); fel. Am. Acad; Antiq. Soc; New Eng. Water Works Ass; Boston Soc. Civil Eng; London Chem. Soc; Chem. Gesell. Sewage disposal; sanitary problems in connection with air and water; action of septic tank on purification of sewage; amount of carbon monoxid in tobacco smoke; quantitative determination of carbon monoxid in air; quantitative determination of sulphites, etc; standard methods in the analysis of potable waters and sewage; treatment of sewage by intermittent filtration.

Kinsley, Prof. Carl, University of Chicago, Chicago, Ills. *Physics.* Lansing, Mich, Nov. 25, 70. A.B, Oberlin, 93; M.E, Cornell, 94; A.M, Oberlin, 96; fellow, Chicago, 01–02. Instr. physics, Washington (St. Louis), 94–99; elec. expert, War Dept, 99–01; instr. *physics, Chicago,* 02–03, *asst. prof, 03–* F.A.A; Physical Soc; Elec. Eng; Eng. Educ. Frequency of alternating curents; series-dynamo electric machines; coherers for wireless telegraphy; residual charges of condensers; short spark discharges; methods of designing electrical machines.—Discharge through gases.

Kinyoun, Dr. J(oseph) J(ames), Medical Department, Georgetown University, Washington, D. C. **Pathology.* North Carolina, Nov. 25, 60. M.D, Bellevue, 82; Ph.D, Georgetown, 94. Prof. hygiene and bacter, *Georgetown,* 90–92, path. and bacter, 92–99, *special lecturer immunity, serum therapy and preventive inoculations, 03–* Order of Bolivar, Venezuela, 95. F.A.A; Soc. Bact; Ass. Path. and Bact; Am. Physicians. Hygiene; pathology; bacteriology.

Kirchoff, Charles, 349 W. 85th St, New York, N. Y. *Mining, Metallurgy.* San Francisco, Cal, March 28, 53. Grad, Royal Sch. Mines, Clausthal, 74. Chemist and asst. supt, Delaware Lead Works, Phila, 74–78; asst. ed, 'Iron Age,' 78–81; managing ed, 'Eng. and Mining Jour,' 81–83; asst. ed, '*Iron Age*,' 83–89, *editor-in-chief, 89–* Gold medal, Paris Expos, 00. Min. Eng; Mech. Eng; Franklin Inst; Gt. Britain Iron and Steel Inst; Eisenhuetten. Verein. Statistics of copper, lead and zinc production for the United States Geological Survey.

Kirkpatrick, E(dwin) A(sbury), State Normal School, Fitchburg, Mass. *Psychology, Child study.* Peoria, Ia, Sept. 29, 62. B.S, Iowa State, 87, Ph.M, 89; scholar and fellow, Clark, 89–91. Asst. math. and rhetoric, Iowa State, 88–89; instr. psychol, philos. and hist. of educ, State Nor. Sch, Winona, Minn, 92–98; *head, Dept. Psychol. and Child Study, State Nor. Sch, Fitchburg, Mass, 98–* F.A.A; Psychol. Ass; Minn. Child Study Soc. (sec'y, 96–97). Development of children, especially in the use of language, control of movement, space-perception and memory.—Tests of mental and physical efficiency of children.

Kirkwood, Dr. J(oseph) Edward, Syracuse University, Syracuse, N. Y. *Botany.* Cedar Rapids, Ia, Jan. 24, 72. A.B, Pacific, 98; fellow, Princeton, 99, A.M, 02; Ph.D, Columbia, 03. Asst. biol, Teachers Col, Columbia, 00–01; instr. *bot, Syracuse,* 01–03, *assoc. prof, 03–* Asst. bot, Summer Sch, Columbia, 00. F.A.A; Soc. Plant Morph. and Physiol; Torrey Bot. Club; Onondaga Acad. Composition of the cocoanut and chemical changes during germination; embryology of the Cucurbitaceae.—Embryology of the Cucurbitaceae.

Kirschmann, Prof. A(ugust), 54 St. George St, Toronto, Can. *Philosophy, Psychology.* Oberstein an der Nahe, Germany, July 21, 60. Ph.D, Leipzig, 90. Teacher, 77–87; asst. to Prof. Wundt, Leipzig, 89–92; lecturer *philos. and director, Psychol. Lab, Toronto,* 93–99, assoc. prof, 99–03, *prof, 03–* F.A.A; Psychol. Ass. Physiology; psychology; optics.

Klein, Prof. J(oseph) F(rederic), 357 Market St, Bethlehem, Pa. *Mechanical engineering.* Paris, France, Oct. 10, 49. Ph.B, Yale, 71, D.E, 73. Instr. *mech. eng,* Sheffield Sci. Sch, Yale, 77–81; *prof, Lehigh, 81–* Asst. and draftsman, Colt's Armory, Hartford, Conn. Mech. Eng. Thermodynamics; kinematics of machinery; elements of machine design.—Kinematics of machinery; dynamics of the shaft governor.

Kline, Dr. Linus W(ard), 1212 E. Third St, Duluth, Minn. *Psychology, Pedagogy.* Benton, Pa, Oct. 16, 66. B.S, Harvard, 96; Ph.D, Clark, 98. Teacher psychol. and pedag, State Nor. Sch, Mankato, Minn, 99–00; State Nor. Sch, Farmville, Va, 00–02; *teacher psychol. and pedag. and supervisor, Training Sch, State Nor Sch, Duluth, Minn, 02–* Lecturer, Summer Sch. of Methods, Virginia, 02. Migratory impulse vs. love of home; psychology of property; methods in animal psychology; association in animals; juvenile ethics.—Growth of speech-language; psychology of the sermon.

Klotz, Dr. Otto (Julius), 437 Albert St, Ottawa, Can. *Astronomy, Geodesy, Magnetics.* Preston, Ont, March 31, 52. Toronto, 69; Michigan, 69–72. Explorer and topog. surveyor for Dominion Govt, 72–84; *Dominion astronomer, 85–* LL.D, Toronto. F.A.A; Nat. Geog. Soc; Wash. Acad; Can. Inst; Ottawa Lit. and Sci. Soc; Ottawa Field Nat. Club; fel. Royal Astron. Soc; hon. fel. New Zealand Inst. Trans-Pacific longitudes, connecting Canada, Australia and New Zealand, completing first astronomic girdle of the world; transcontinental longitude and pendulum observations (Canada).

Knab, Frederick, 737 13th St, N. W, Washington, D. C. *Entomology.* Würzburg, Germany, Sept. 22, 65. Munich Acad, 89–90. *Zoological artist, 03–* M.A.A; Wash. Entom. Soc; Springfield (Mass.) Zool. Club. Early stages of Coleoptera and Diptera; systematic study of Chrysomelidae.

Knapp, Dr. (Jacob) H(ermann), 26 W. 40th St, New York, N. Y. *Ophthalmology, Otology.* Dauborn, Prussia, March 17, 32. Grad, Giessen, 54; Med. Staats-examen, Wiesbaden, 56; Münich, Wurzburg, Berlin, Leipzig, Zürich, Vienna, Paris, London, Utrecht and Heidelberg. *Prof. ophthal, Heidelberg,* 64–68; N. Y. Univ, 82–88; *Columbia, 88–* Founder (69) and executive surgeon, N. Y. Ophthal. and Aural Inst, 69–; founder (69) and ed, 'Archives of Ophthal.' and 'Archives of Otol,' 69– Ophthal. Soc; Otol. Soc; N. Y. Co. Med. Soc; N. Y. Acad. Med. Ophthalmology; otology.

Knaus, Warren, McPherson, Kas. *Entomology.* Liber, Ind, Feb. 24, 58. B.S, Kas. State Agr. Col, 82, M.S, 85. Kas. Acad; cor. mem. Wash. Entom. Soc. Coleoptera of Kansas.

Kneass, Strickland L(andis), 418 S. 15th St, Philadelphia, Pa. *Mechanical engineering, Thermodynamics.* Philadelphia, Jan. 7, 61. C.E, Rensselaer, 80. Mech. engineer, Exp. Dept, *Wm. Sellers and Co, Phila,* 83–88, foreman, 88–95, *supt. and manager, Injector Dept, 95–* Mem. Board of Judges, Elec. Exhib, Phila, 86; chairman of sub-committee, Board of Jury and Awards, Export Exhib, 99. John Scott medal and premium, Franklin Inst. Mech. Eng; Am. R. R. Master Mechanics; Franklin Inst; Phila. Eng. Club. Discharge of elastic fluids; flow of steam.—Bronzes.

Knerr, Prof. E(llsworth) B(rownell), Kansas City, Mo. *Chemistry, Physics, Botany.* Rochester, Minn, Dec. 3, 61. A.B, Wittenberg, 84, A.M, 86, Sc.D, 87. Asst. prof. science, Wittenberg, 85, 86; prof. nat. sciences, Parsons, 86–89; Midland Col, Atchison, Kas, 89–04; *asst, Chem. Lab, Univ. Med. Col, and asst. city chemist, Kansas City, Mo, 04–* Asst. chemist, Kansas Univ. Geol. Surv. M.A.A; Chem. Soc; Kas. Acad. (sec'y, 94–98, pres, 99). Mineral analyses; Kansas water analyses.

Knight, Prof. Charles M(ellen), 129 S. Union St, Akron, O. *Physics, Chemistry.* Dummerston, Vt, Feb. 1, 48. A.B, Tufts, 73, A.M, 78. Asst, Goddard Sem, Barre, Vt, 73–74; asst. physics, Tufts, 74–75; *prof.* nat. science, *Buchtel,* 75–83, *physical science, 83–* Acting pres, Buchtel, 96–97. Hon. Sc.D, Buchtel, 97. F.A.A.

Knight, Prof. Henry G(ranger), Laramie, Wyo. *Chemistry.* Bennington, Kas, July 21, 78. A.B, Washington (Seattle), 02, A.M, 04; fellow elect, Chicago, 03. Asst. *chem,* Washington (Seattle), 00–01, instr, 01–02; asst, Chicago, 02–03; asst. prof, Washington (Seattle), 03–04; *prof, Wyoming, and state chemist, Wyo, 04–* Potable waters.—Food adulterations; effect of salt solutions upon seeds; Wyoming forage plants.

Knight, Prof. Nicholas, Mt. Vernon, Ia. *Chemistry.* Mexico, N. Y, April 2, 61. A.B, Syracuse, 82, A.M, Ph.D, 88; Strasburg, 92–94; Hopkins, 94–95, 98–99. *Prof.* nat. science, Cazenovia Sem, 82–92; *chem,* Randolph-Macon, 95–98; *Cornell (Ia.), 99–* Commission on Pure Foods, Ia, 00– Chem. Soc; fel. Iowa Acad; Chem. Gesell. Constitution of benzanilid; the production of certain oxylactones; decomposition of double salts in aqueous solutions.—Rock formations and the water of eastern Iowa; by-products of benzenesulphonchlorid and benzanilid.

Knipp, Prof. Charles Tobias, 502 W. Illinois St, Urbana, Ills. **Physics.* Napoleon, O, Aug. 13, 69. A.B, Indiana, 94, A.M, 96; fellow, Cornell, 98–00, Ph.D, 00. Instr. *physics,* Indiana, 93–00, *asst. prof,* 00–03; *Illinois, 03–* Instr. physics, Summer Sch, Missouri, 02; Indiana, 05. F.A.A; Physical Soc. A new form of make and break; surface tension of water above 100° C; the use of the bicycle wheel in illustrating the principles of the gyroscope; an automatic temperature regulator; a method of maintaining intermediate temperature; surface tension and density of liquid air.—Density and electrical conductivity of vapors at high temperatures.

Knisely, Alexander, Columbia City, Ind. *Mathematics.* Columbia City, Dec. 12, 51. B.S, Northern Ind. Nor, 79. Math. Soc.

Knower, Dr. H(enry) McE(lderry), Ruxton, Baltimore County, Md. **Animal morphology.* Baltimore, Md, Aug. 5, 68. A.B, Hopkins, 90, Adam T. Bruce fellow, 95–96, Ph.D, 96, fellow by courtesy, 97–99. Asst. biol, Hopkins, 91–93; *instr,* Williams, 96–97; *anat, Hopkins, 99–* Asst. zool, Woods Hole, 97; co-editor and sec'y, 'Am. Jour. Anat.' F.A.A; Soc. Nat; Ass. Anat; Soc. Zool. Embryology of termites; morphology of sexual tract and brain in termites; experimental study of the lymphatic and vascular systems of frog embryos.

Knowlton, Dr. F(rank) H(all), Laurel, Md. **Paleobotany, Ornithology.* Brandon, Vt, Sept. 2, 60. B.S, Middlebury, 84, M.S, 87; Ph.D, Columbian, 96. Aid, U. S. Nat. Mus, 84–87, asst. curator, 87–94; asst. paleontologist, *U. S. Geol. Surv,* 94–00, *paleontologist, 00–* Prof. bot, Columbian, 87–96; ed, 'The Plant World,' 97–04. Geol. Soc; mem. Ornith. Union; Wash. Acad; Wash. Biol, Geol. and Bot. Societies. Cretaceous and Tertiary plants of North America.—Fossil flora of the Puget formation; fossil flora of the Laramie and allied formations.

Kober, Dr. Geo(rge) M(artin), 1600 T St, N. W, Washington, D. C. *Hygiene.* Alsfeld, Germany, March 28, 50. M.D, Georgetown, 73. Acting asst. surgeon, U. S. A, 74–86; *prof. hygiene, Sch. of Med, Georgetown, 90–, dean, 01–* Mem. consulting staff, Providence, Children's, Wash. Asylum, Emergency and Univ. Hospitals. F.A.A; Am. Physicians; Am. Med. Ass. (pres, 98); hon. mem. Ass. Mil. Surg; D. C. Med. and Surg. Soc. (pres, 89); D. C. Med. Ass. (pres, 98); D. C. Med. Soc. (pres, 03); Wash. Acad; Wash. Anthrop. Soc. (v. pres.). Urinology and its practical applications; hygiene and sanitary science; preventive medicine. —House sanitation; milk in relation to public health; etc.

Koch, E(rnest) H(erman), Jr, 125 Willoughby Ave, Brooklyn, N. Y. *Mathematics.* Philadelphia, Pa, Sept. 7, 75. B.S, Pennsylvania, 97; Cornell, 02; Harvard, 03; Columbia, 04–05. Math. master, MacKenzie Sch, 01–04; *instr. math, Pratt Inst, 04–* Math. Soc; Eng. Educ; Ass. Math. Teachers of Middle States and Md. History and development of elementary mathematics.—Foundations of mathematics; engineering mathematics; generalization of human knowledge through mathematical conceptions.

Koch, Dr. W(aldemar), University of Missouri, Columbia, Mo. *Physiological chemistry, Pharmacology.* St. Louis, Mo, April 8, 75. B.S, Harvard, 98, Ph.D, 00. Asst. physiol, Harvard Med. Sch, 00–01; pharmacol, Chicago, 01–03; *asst. prof. physiol. chem. and pharmacol, Missouri, 03–* Physiol. Soc. Chemistry of nervous tissues; physiological action of formaldehyde.—Chemistry of nervous tissues; chemistry of the lecethans.

Koenig, Prof. George A(ugustus), Houghton, Mich. *Chemistry, Mineralogy.* Willstaett, Germany, May 12, 44. M.E, Polytech, Karlsruhe, 63; Berlin, 65–67; Ph.D, Heidelberg, 67; Freiberg, 67–68. Chemist, Tacony Chem. Works, 69–72; *prof.* miner, Pennsylvania, 72–92; *chem, Mich. Col. of Mines, 92–* Min. Eng; Philos. Soc; Franklin Inst; Phila. Acad. Examination of twelve new mineral species; many reexaminations of known species; chromometry, a new method of analysis; artificial crystals of several copper arsenides.—Furnace for assaying without muffle; later discoveries at Mohawk mine.

Kofoid, Prof. Charles A(twood), University of California, Berkeley, Cal. **Zoology.* Granville, Ills, Oct. 11, 65. A.B, Oberlin, 90; A.M, Harvard, 92, Ph.D, 94. Instr. vert. morph, Michigan, 94–95; supt, Biol. Exp. Sta, Illinois, 95–00, asst. prof. zool, 97–00; *histol. and embryol, California,* 00–04, *assoc. prof, 04–* With Mich.

Fish Commission, 94; assoc. ed, 'Am. Naturalist,' 97–; supt, Ills. Nat. Hist. Surv, 98–00; zool. ed, 'Jour. Applied Micros,' 00–; with Agassiz Exped. in Southern Pacific, 04–05. Diploma, Paris Expos, 00; gold medal, La. Purchase Expos, 04. F.A.A; Soc. Nat; Soc. Zool; Ass. Anat; Micros. Soc. Plankton; morphology and taxonomy of Protozoa; embryology of Mollusca; plankton of Illinois River.—Protozoa of the Pacific.

Kohler, Prof. Elmer P(eter), Bryn Mawr, Pa. **Chemistry.* Egypt, Pa, 65. A.B, Muhlenberg, 86, A.M, 89; fellow, Hopkins, 91–92, Ph.D, 92. Instr. *chem, Bryn Mawr,* 92–94, assoc, 94–97, assoc. prof, 97–00, *prof, 00–* Chem. Gesell. Organic sulphur compounds; aluminium compounds; reactions under the influence of light; unsaturated sulphones; organic magnesium compounds.—Rate of addition to unsaturated compounds; penacone formation.

Kollock, Miss Lily G(avit), 1330 Second St, Louisville, Ky. *Chemistry.* Philadelphia, Pa, April 27, 73. A.B, Woman's Col. of Baltimore, 95; Ph.D, Pennsylvania, 99. Instr. chem, Vassar, 99–00; *prof. chem. and physics, Girls' High Sch, Louisville, 01–* Chem. Soc. Electrolytic determinations and separations; electrolytic methods applied to uranium; the electrolytic determination of molybdenum; the determination of cobalt from various electrolytes.—The determination of metals by means of the mercury cathode and rotating anode.

Koplik, Dr. Henry, 692 Madison Ave, New York, N. Y. *Diseases of children.* New York, Oct. 28, 58. A.B, Col. City of N. Y, 78; M.D, Columbia, 81. House physician, Bellevue Hosp, 81–83; asst. and instr. histol, Columbia, 83–85; *attending physician,* Good Samaritan Dispensary, N. Y, 86–00; *Mt. Sinai Hosp, 00–* Am. Physicians; Pediat. Soc. (pres.); N. Y. Acad. Med; N. Y. Co. Med. Soc. Diseases of infancy and childhood.

Kortright, Prof. F(rederic) L(awrence), Box 325, Morgantown, W. Va. *Chemistry.* Middletown, N. Y, June 10, 67. B.S, Cornell, 90, Sc.D, 95; Polytech, Zürich, 00. Asst. *chem,* Cornell, 90–92, instr, 92–99; asst. prof, *West Virginia,* 00–02, *assoc. prof, 02–* Asst. chemist, Solvay Process Co, 91; consulting chemist, Rochester, N. Y, 01. Chem. Soc. Rare earths; chemical equilibrium.—Hydrates of citric acid; solubility of silica.

Kraemer, Prof. Henry, 424 S. 44th St, Philadelphia, Pa. *Botany, Pharmacognosy.* Philadelphia, July 22, 68. Ph.G, Phila. Col. Pharmacy, 89; Ph.B, Columbia, 95; Ph.D, Marburg, 96. Instr. pharmacog, N. Y. Col. Pharmacy, 90–92; *prof. bot,* Northwestern, 95–97; *Phila. Col. Pharmacy, 97–* Ed, 'Am. Jour. Pharmacy,' 98–; mem. Revision Committee, U. S. Pharmacopœia, 00– Ebert and Maisch prizes, Am. Pharmaceut. Ass, 99. F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; Pharmaceut. Ass; Philos. Soc; Torrey Bot. Club; Phila. Acad; Int. Ass. Bot; cor. mem. Soc. de Pharm. de Paris. Structure of starch grain; continuity of protoplasm; morphology of the genus Viola; microscopical study of drugs and foods; origin and detection of mucilage; origin of tannin in galls; calcium oxalate crystals in plants; spherites and sphere crystals.—Unorganized cell contents of plants; nature and structure of the cell wall; limitations of the use of anilin stains in histological study of plants; spherites and sphere crystals and their relation to plant structure.

Kraus, Prof. E(dward) H(enry), 548 Thompson St, Ann Arbor, Mich. *Mineralogy.* Syracuse, Dec. 1, 75. B.S, Syracuse, 96, M.S, 97; Ph.D, Munich, 01. Instr. German and miner, Syracuse, 96–99, miner, 01–02, assoc. prof, 02; head, Dept. Science, High Sch, Syracuse, 02–04; *asst. prof. miner, Michigan, 04–* Prof. chem. and geol, summer session, Syracuse, 03, 04. M.A.A; Geol. Soc; Chem. Soc; Onondaga Acad. Crystallography; topical axes of crystals and their application; the new minerals hussakite and fedorowite.—Celestite-bearing rocks; origin of sulphur deposits.

Kreider, Prof. D(avid) Albert, 298 Lawrence St, New Haven, Conn. *Physics, Chemistry.* Annville, Pa, March 23, 71. A.B, Lebanon Valley, 92; Ph.D, Yale, 95; Göttingen, 01. Lab. asst. chem, *Yale,* 93–95, asst, 95–96, instr. *physics,* 96–02, *asst. prof, 02–* Conn. Acad. Relation between structural and magneto-optic rotation; analysis of potassium and sodium; detection and quantitative determination of perchlorates; preparation of perchloric acid; etc.

Kremers, Prof. Edward, Madison, Wis. **Pharmaceutical chemistry.* Milwaukee, Wis, Feb. 23, 65. Phila. Col. Pharmacy, 84–85; Ph.G, Wisconsin, 86, B.S, 88; Ph.D, Göttingen, 90. Instr. pharmacy, *Wisconsin,* 90–92, *prof. pharmaceut. chem, 92–, director, Course in Pharmacy, 99–* Ed, 'Pharmaceut. Rev'; 'Pharmaceut. Archives.' Ebert prize, Am. Pharmaceut. Ass, 88, 00. F.A.A; Chem. Soc; Pharmaceut. Ass. (chairman, Sci. Sect, 98, historian, 04–); Soc. Chem. Indust; Am. Conf. Pharmaceut. Faculties (pres, 02–03); Wis. Acad; Chem. Gesell. Chemistry of volatile oils and their constituents. —Sesquiterpenes and derivatives; quinhydrones as plant pigments; bibliography of the chemical constituents of volatile oils; classification and occurrence of the constituents of volatile oils according to modern principles.

Kretz, Dr. Walter C(oluzzi), 137 E. Hanover St, Trenton, N. J. *Astronomy, Engineering.* Bavaria, Aug. 20, 78. A.B, Columbia, 96, fellow, 98–99, A.M, 97, Ph.D, 99, M.E, 01. Lecturer astron, Columbia, 01; *engineer,* Bacter. Sewage Purification Co, N. Y, 02; *John A. Roebling's Sons Co, 02–* Asst. geod, Summer Sch, Columbia, 96–02. M.A.A. Photographic determination of position of stars; engineering.

Kroeber, Dr. A(lfred) L, Affiliated Colleges, San Francisco, Cal. **Anthropology.* Hoboken, N, J, June 11, 76. A.B, Columbia, 96, A.M, 97, Ph.D, 01. Asst. rhetoric, Columbia, 97–99; *curator*

anthrop, Cal. Acad. Sciences, 00, *03–; instr, California, 01–, sec'y, Dept. Anthrop, 03–* F.A.A; Anthrop. Ass; fel. Ethnol. Soc; Folklore Soc; Philol. Ass. Ethnology; primitive art; mythology; American languages.

Krohn, Dr. W(illia)m O(tterbein), Fine Arts Building, 203 Michigan Ave, Chicago, Ills. *Psychology, Medicine.* Galion, O, March 23, 68. A.B, Western, 87; Ph.D, Yale, 89; senior fellow, Clark, 92; M.D, Northwestern, 05. Prof. psychol, Western Reserve, 89–91; Illinois, 92–97; psychologist, State Insane Hosp, Kankakee, Ills, 97–00. Ed, 'Child Study Monthly'; 'The Psychiater.' Nat. Educ. Ass; Ills. Child Study Soc. (ed, 'Trans.'); Berlin Psychol. Gesell. Child-study; psychiatry; laboratory psychology.—Laboratory studies of mental peculiarities of the insane; reaction-time; sense disturbances; mental temperament in children as sequella of ordinary children's diseases.

Kuhlmann, Dr. Fred, University of Wisconsin, Madison, Wis. *Psychology.* Davenport, Ia, March 20, 76. A.B, Nebraska, 99, fellow, 99–01, A.M, 01; fellow, Clark, 01–03, Ph.D, 03, hon. fellow, 03–05. *Asst. psychol,* Clark, 01–05; *Wisconsin, 05–* Mental fatigue and practise; experimental studies in mental deficiency; arrested mental development in children; mental imagery and memory.—The daily life of the honey-bee; mental imagery and memory.

Kuhn, Prof. H(arry) W(aldo), Ohio State University, Columbus, O. *Mathematics.* Etna, O, May 26, 74. B.S, Ohio State, 97, fellow, 97–98; Erastus Brooks fellow, Cornell, 99–00, Ph.D, 01. Asst. *math,* Cornell, 00–01; *asst. prof, Ohio State, 01–* Math. Soc. Imprimitive substitution groups.

Kuichling, E(mil), 52 Broadway, New York, N. Y. *Engineering.* Kehl, Germany, Jan. 20, 48. A.B, Rochester, 68, C.E, 69; Polytech, Karlsruhe, 72. Principal asst. engineer, Rochester Water Works, 73–85; consulting engineer, N. Y. State Board of Health, 82–92; commissioner of pub. works, Rochester, 85–88; chief engineer, Water Works, 90–00; *consulting engineer, 00–* Planned and constructed water and sewerage works in various cities, 82–00. Civil Eng. (director, v. pres.); Pub. Health Ass; Am. Water Works Ass; New Eng. Water Works Ass; Rochester Acad; Rochester Eng. Soc. (pres.). Hydraulic and sanitary engineering as applied to water works, water supplies, sewerage and sewage disposal; municipal public works; hydraulic power plants.—Hydraulics; hydrology; hydrography.

Kümmel, Dr. Henry B(arnard), 917 Edgewood Ave, Trenton, N. J. **Geology.* Milwaukee, Wis, May 25, 67. A.B, Beloit, 89; A.M, Harvard, 92; fellow, Chicago, 92–95, Ph.D, 95. Instr, Acad, Beloit, 89–91; asst. geol, Harvard, 91–92; asst. prof. physiog, Lewis Inst, Chicago, 96–99; asst. state geologist, *N. J,* 99–02, *state geologist, 02–* Geol. Soc. Glacial and stratigraphical geology.—Paleozoic rocks of New Jersey; stratigraphy of clays of New Jersey.

Kunz, Dr. George F(rederick), Care Tiffany and Co, 11–15 Union Square, New York, N. Y. *Mineralogy, Geology.* New York, Sept. 29, 56. Pub. schools; Cooper Union, 72. Asst, Chem. Lab, Cooper Union, 75–76; *gem expert, Tiffany and Co, 79–; special agent in charge of precious stones, U. S. Geol. Surv, 83–* Hon. special agent of mines, Omaha Expos, 87; Paris, 89; Kimberley, 91; Columbian, 93; Nashville, 98; Pan-Am, 01; La. Purchase, 04; Lewis and Clark, 05; special agent, U. S. Fish Commission, 92–98; hon. curator precious stones, Am. Mus. Nat. Hist. Officier de l'Instruction Pub, 00; hon. A.M, Columbia, 98; Ph.D, Marburg, 03. F.A.A; Geol. Soc; Chem. Soc; Min. Eng; fel. N. Y. Acad. Gems; precious stones; meteorites; folk-lore of precious stones; mineralogy; radium.—Id; American pearls; industrial uses of precious stones.

Kyes, Prof. Preston, Quadrangle Club, University of Chicago, Chicago, Ills. *Experimental medicine.* North Jay, Me, Jan. 24, 75. A.B, Bowdoin, 96; Harvard, 98–99; A.M, Bowdoin, 00; M.D, Hopkins, 00. Assoc. *anat, Chicago,* 00–02, instr, 02–03, *asst. prof, 04–* Fellow, Rockefeller Inst. for Med. Research, 02–03, 04–05; assoc, Mem. Inst. for Infectious Diseases, Chicago, 04– Ass. Anat; Ass. Path. and Bact. The structure of toxins and antitoxins; structure of human spleen; the structure of venoms.—Toxins involved in pneumonia.

L

Lachman, Dr. Arthur, Cor. Second and Bryant Sts, San Francisco, Cal. **Chemistry.* San Francisco, Dec. 4, 73. B.S, California, 93; Ph.D, Munich, 95. Instr. chem, Michigan, 96–97; prof, Oregon, 97–02, dean, Colleges of Eng, 99–02; *tech. chemist, 02–* Prof. chem, Summer Sch, California, 02. F.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Gesell; Chem. Verein. Valence of nitrogen in oxygen compounds; azoxybenzene nitramid.—Technical and industrial applications of organic and physical chemistry.

Ladd, Prof. E(dwin) F(remont), Fargo, N. Dak. *Chemistry.* Stark, Me, Dec. 13, 59. B.S, Maine, 84. Asst. chemist, N. Y. State Exp. Sta, 84–87, chief chemist, 87–90; *prof. chem, N. Dak. Agr. Col, and chemist, Exp. Sta, 90–; food commissioner and state chemist, N. Dak, 03–* Ed, 'N. Dak. Farmer and Sanitary Home,' 98– F.A.A; Chem. Soc; Soc. Prom. Agr. Sci. Agricultural chemistry.—Soils; foods.

Ladd, Dr. Geo(rge) E(dgar), Rolla, Mo. *Geology.* Haverhill, Mass, July 23, 64. A.B, Harvard, 87, A.M, 88, Ph.D, 93; Munich, 93, 94. Asst, U. S. Geol. Surv, 87–89; chief asst, Mo. Geol. Surv, 89–90; asst. geol, Harvard, 90–92; asst. geologist and chemist, Ga. Geol. Surv, 95–96; *prof. geol. and mining, and director, Sch. of Mines and Metal, Missouri, 96–* Asst. geologist, Tex. Geol. Surv, 89; U. S. Geol. Surv, 91–92; supt, Mass. Mineral and Building Stone Exhibit, Columbian Expos, 93;

Mo. Min. and Metal. Exhibit, La. Purchase Expos, 04; instr, Summer Sch, Harvard, five summers. Geol. Soc; Min. Eng; Eng. Educ; Nat. Geog. Soc. Clays.

Ladd, Prof. George Trumbull, 204 Prospect St, New Haven, Conn. **Psychology, Philosophy.* Painesville, O, Jan. 19, 42. A.B, Western Reserve, 64; B.D, Andover Theol. Sem, 69. Pastor, Edinburgh, O, 69–71; Milwaukee, Wis, 71–79; *prof. philos,* Bowdoin, 79–81; *Yale, 81–* Lecturer, Andover Theol. Sem, 79–82; Harvard Divinity Sch, 81–82; Yale Theol. Sem, 81–83; Doshisha, Japan, 92; conductor grad. sem. in ethics, Harvard, 95–96; lecturer, Chicago, 96; Tokyo and Imperial Educ. Soc, Japan, and Bombay and Madras, India, 99–00. Third degree, Japanese Order of the Rising Sun; D.D, Western Reserve, 79; hon. A.M, Yale, 81; LL.D, Western Reserve, 95; Princeton, 96. Soc. Nat; Psychol. Ass; Philos. Ass; Oriental Soc; Conn. Acad; Japan Imperial Educ. Soc. Psychology; philosophy.—Philosophy of religion.

Ladue, Prof. Pomeroy, University Heights, New York, N. Y. *Mathematics.* Detroit, Mich, Oct. 23, 68. B.S, Michigan, 90. Instr. *math,* Michigan, 92–93; *prof, N. Y. Univ, 93–* Sec'y, Faculties of Grad. Sch. and Sch. Applied Sci, N. Y. Univ. Math. Soc. (librarian, 95–01, mem. Council, 02–04); Nat. Geog. Soc.

Laflamme, Prof. J. C. K, Laval University, Quebec, Can. *Mineralogy, Geology, Botany.* Pt. Anselm, Que, 49. A.B, Laval, 68, D.D, 73, A.M, 81. Asst. prof. *bot, Laval,* 70–73, *prof, 73–, miner. and geol, 74–* Roman prelate, 93; Chevalier Légion d'honneur, 98. Delegate of Govt. of Quebec to Int. Cong. of Geol, Washington, 91; of Govt. of Can. to St. Petersburg, 97. F.A.A; Geol. Soc; Can. Royal Soc; Soc. géol. de France; Soc. de Physique; Soc. Sci. de Bruxelles. Stratigraphical geology; mineral deposits.—Peculiar points of meteorology and forestry.

LaForge, Dr. Laurence, 1221 Yale St, Washington, D. C. *Geology, Geophysics.* New York, N. Y, Sept. 17, 71. Alfred, 87–92; A.B, Harvard, 99, A.M, 00, Austin fellow, 02–03, Ph.D, 03. Instr. astron, Alfred, 96–97; *asst. geologist, U. S. Geol. Surv, 01–* Meteorologist, Alfred, 95–97. Effect of topography on climate; crystallography of leadhillite; geology of Boston region.—Periodicity of climate; photographic measurement of geologic process; glacial geology of upper Genesee Valley, New York.

Laird, Dr. Elizabeth R(ebecca), South Hadley, Mass. *Physics.* Owen Sound, Ont, Dec. 6, 74. A.B, Toronto, 96; fellow, Bryn Mawr (Berlin), 98–99, Ph.D, 01. Instr. math, Ont. Ladies' Col, 96–97; *physics, Mt. Holyoke,* 01–03, *prof, 04–* Substitute demonstrator physics, Bryn Mawr, 00; cor. sec'y, Federation Grad. Clubs, 01. Physical Soc. Solids vibrating in liquids; magnetic lag; spectrum analysis.

Lakes, Prof. Arthur, 2939 E. Colfax Ave, Denver, Colo. *Geology.* Martock, England, Dec. 21, 44. Elizabeth Col, Guernsey; Oxford. *Prof. geol, Colo. State Sch. of Mines, 82–* Western ed, 'Mines and Minerals.' Colo. Sci. Soc. Paleontology; general geology; mining and economic geology.—Ore, cement, gold, silver, and oil deposits.

Lamb, Dr. Arthur B(ecket), 191 S. Main St, Attleboro, Mass. *Chemistry.* Attleboro, Feb. 25, 80. A.B, A.M, Tufts, 00, grad. student, 00–01; A.M, Harvard, 03; Ph.D, Harvard and Tufts, 04; traveling fellow (Leipzig), Harvard, 04–05. *Instr.* chem, Tufts, 01–02; *electrochem, Harvard, 05–* The development of eye muscles in Squalus acanthias; dehydration of periodic acid; the specific heat of aqueous salt solutions.—The oxygen gas electrode; isomerism in coumaric acid derivatives.

Lamb, Prof. Arthur L(incoln), Beechdale Road, Roland Park, Md. *Biology.* Baltimore, Sept. 2, 65. A.B, Hopkins, 88, grad. student, 90–92, 94–95. Instr. science, Friends Elementary and High Sch, Baltimore, 87–90, 92–94, 97–98; director, Science Dept, Tome Inst, Port Deposit, Md, 96–97; *science master, The Country Sch. for Boys, Baltimore, 98–* Soc. Nat. Development of poison teeth of Ankistrodon contortrix.

Lamb, Dr. D(aniel) S(mith), 1332 Massachusetts Ave, N. W, Washington, D. C. *Medicine, Anthropology.* Philadelphia, Pa, May 20, 43. A.B, Phila. High Sch, 59, A.M, 64; M.D, Georgetown, 67. Acting asst. surgeon, U. S. A, 68–92; *prof.* mat. med, *Med. Dept, Howard,* 73–77, *anat,* 77–; *pathologist, Army Med. Mus, 92–* Ed, 'Wash. Med. Annals.' F.A.A; Ass. Anat; fel. U. S. Col. Vet. Surg; D. C. Med. Soc. (pres.); Wash. Acad. (v. pres.); Wash. Anthrop. Soc. (pres.). Anatomy and pathology; anthropology.—History of the ophthalmoscope, the stethoscope and the microscope.

Lambert, Prof. P(reston) A(lbert), 215 S. Center St, Bethlehem, Pa. *Mathematics.* Hellertown, Pa, Oct. 30, 62. A.B, Lehigh, 83, A.M, 92; Göttingen and Berlin, 92–93. Teacher, High Sch, Washington, D. C, 83–84; instr. *math, Lehigh,* 85–96, *asst. prof, 96–* F.A.A; Math. Soc; Eng. Educ; Philos. Soc. Geometry; calculus.

Lamson, Dr. W(illia)m M(ather), 30 Union St, Portsmouth, N. H. *Civil engineering.* Washington, D. C, Nov. 7, 70. B.S, Columbian, 97, C.E, 99, Ph.D, 03. Gen. eng. work in D. C, 97–98; draftsman, Navy Dept, 98–00; *civil engineer, Navy Yard, Portsmouth, 00–* Graphical statics; applied mathematics; iron and steel domes.

Lamson-Scribner, Prof. F(rank), U. S. Department of Agriculture, Washington, D. C. **Agriculture, Botany.* Cambridgeport, Mass, April 19, 51. B.S, Maine, 73. Teacher, Me. pub. schools; officer, Girard, Phila, 76–84; asst. botanist, U. S. Dept. Agr, 84–85, chief, Sect. Veg. Path, 85–87; prof. bot. and hort, Tennessee, 87–94; chief, Div. of Agrost, U. S. Dept. Agr, 94–01; Insular Bur. Agr, P. I, 01–04; *special agent and agrostologist, U. S. Dept. Agr, 04–* Director, Agr. Exp. Sta, Tennessee, 89–94. Chevalier Mérite

agricole. Phila. Acad; Buffalo Acad; New Eng. Bot. Club. Fungous diseases of plants; Gramineae.—Philippine agriculture.

Land, Dr. W(illiam) J(esse) G(oad), University of Chicago, Chicago, Ills. *Botany.* Alton, Ind, Dec. 2, 65. B.S, Chicago, 02, Ph.D, 04. Principal, Rome Acad, Ind, 91–94; supt. schools, Ashley, Ills, 95–01; *asst. morph, Chicago, 02–* F.A.A. Nuclear fusions and fertilization in plants; morphology of various gymnosperms.—Fertilization and embryogeny of Ephedra; morphology of Tumboa and Gnetum.

Landacre, Prof. F(rancis) L(eroy), Ohio State University, Columbus, O. *Zoology.* Columbus, Feb. 13, 67. A.B, Ohio State, 93. Asst. *zool. and entom, Ohio State,* 95–00, asst. prof, 00–02, *assoc. prof, 02–* Prof. embryol, Ohio Med. Univ, 96–04, histol. and embryol, 04– M.A.A; Micros. Soc; Ohio Acad. Muscular and skeletal elements of Passalus corutus; Protozoa of Ohio.

Landes, Prof. Henry, University Station, Seattle, Wash. *Geology.* Carroll, Ind, Dec. 22, 67. A.B, Indiana, 92; A.B, A.M, Harvard, 93; fellow, Chicago, 03–04. *Prof. geol, Washington (Seattle), 95–; state geologist, Wash, 01–* Asst, U. S. Geol. Surv, 92, 93; asst. to state geologist, N. J, 93–94. F.A.A; Min. Eng. The coal fields and clay deposits of Washington.

Landis, Prof. W(illiam) W(eidman), 141 W. Pomfret St, Carlisle, Pa. *Mathematics.* Coatesville, Pa, Feb. 15, 69. Ph.B, Dickinson, 91, A.M, 94; Hopkins, 91–94. Student asst. math, Hopkins, 92–94; *prof,* Thiel, 95; *math. and astron, Dickinson, 95–* M.A.A; Math. Soc. Method of defining the conics.

Landreth, Prof. Olin H(enry), Union College, Schenectady, N. Y. *Civil engineering.* Addison, N. Y, July 21, 52. C.E, Union, 76, A.B, 77, A.M, 80. Asst. astronomer, Dudley Observatory, Albany, N. Y, 77–79; prof. eng, Vanderbilt, 79–94, dean, Eng. Dept, 86–94; *prof. eng, Union, 94–* Consulting engineer, N. Y. State Board of Health, 96–; mem. Advisory Committee, Eng. Cong, Chicago Expos, 93; N. Y. State Flood Commission, 02–; N. Y. State Bay Pollution Commission, 03; consulting engineer to various municipalities and corporations. Hon. Sc.D, Union, 05. F.A.A. (sec'y, D, 02); Civil Eng. (director, 93–96); Mech. Eng. (v. pres, 93); Eng. Educ. (mem. Council, 93–96, 01–04); Pub. Health Ass; Eng. Ass. of the South (sec'y, 89–92); Eastern N. Y. Soc. Eng. (v. pres, 04, pres, 05); Schenectady Tech. Ass. (v. pres, 95–96, pres, 96–98). Technical training; hydraulic and sanitary engineering.—Administration for engineeers; sanitary disposal of refuse matter; stream pollution prevention and sewage disposal.

Lane, Dr. Alfred C(hurch), 408 Grand St, S, Lansing, Mich. **Geology.* Boston, Mass, Jan. 29, 63. A.B, Harvard, 83; Heidelberg, 85–87; Ph.D, Harvard, 88. Instr. math, Harvard, 83–85; with U. S. Geol. Surv, 88–89; petrographer, Mich. Geol. Surv, 89–92; asst. state geologist, *Mich,* 92–99, *state geologist, 99–* Teacher geol, Mich. Col. Mines, 89–92. F.A.A; Geol. Soc; Min. Eng; Mich. Acad. (pres, 05); Boston Soc. Nat. Hist; Lake Superior Min. Inst. Petrographical geology; theory of heat in its geological applications.—Grain of igneous rocks; economic geology and stratigraphic correlations of Michigan.

Lane, Prof. W(ilmot) B(urkemar), Lynchburg, Va. *Psychology, Philosophy.* Perth, Ont, Dec. 13, 72. A.B, Toronto, 93, A.M, 94, Col. Pedag, 94; Victoria, 95; Toronto, 95–97; fellow, Wisconsin, 97–99, Ph.D, 99; Cornell, 99–00. Asst. psychol, Wisconsin, 97–99; *prof.* psychol. and philos, Mt. Union, 00–02; *philos. and pedag, Randolph-Macon, 02–* Asst. exp. psychol, Summer Sch, Cornell, 00; examiner philos, etc, Toronto, 96–97. S. Soc. Philos. and Psychol. Color contrast; mental fatigue.

Lang, Prof. W(illiam) R(obert), University of Toronto, Toronto, Can. *Chemistry.* Lanark Co, Scotland. B.S, Glasgow, 90, Sc.D, 99. Asst. *chem,* Glasgow, 90–96, lecturer, 96–00; *prof. and director, Dept. Chem, Toronto, 00–* Chem. Soc; Soc. Chem. Indust. (first chairman, Can. Sect.); Can. Inst; fel. Inst. Chem. of Gt. Britain and Ireland; fel. London Chem. Soc; Glasgow Royal Philos. Soc; Soc. Franco-Ecossaise. Explosives; low temperature phenomena; ammoniacal compounds; inorganic chemistry; chemical industries of Canada.

Langdon, Dr. F(rank) W(arren), 5 Garfield Place, Cincinnati, Ohio. *Neurology, Medicine.* Cincinnati, Dec. 16, 52. M.D, Miami Med. Col, 81; London, 95. Demonstrator anat, *Miami Med. Col,* 81–84, *prof,* 84–95, *nervous and mental diseases, 96–; lecturer neur, Med. Dept, Cincinnati and neurologist, Cincinnati Hosp.* Medical director, Cincinnati Sanitarium for Nervous and Mental Diseases, 03– Am. Med. Ass. (chairman, Sect. Nervous and Mental Diseases, 02–03); Neur. Ass; Medico-Psychol. Ass; Ohio Med. Soc; Cincinnati Acad. Med; Cincinnati Soc. Med. Research; cor. mem. N. Y. Linnean Soc; Boston Zool. Soc; hon. mem. Brooklyn Neur. Soc; Meadville (Pa.) Soc. Nat. Hist; Neur. Soc. of United Kingdom. Anthropology; the nervous system; psychology.

Langenbeck, Karl, 1434 Q St, Washington, D. C. **Chemistry, Ceramics.* Cincinnati, O, Oct. 7, 61. Col. of Pharmacy, Cincinnati, 82; Polytech, Zürich, 83; Charlottenburg, 84. Supt, Rookwood Pottery Co, Cincinnati, 86; prof. chem, Miami Med. Col, 88–90; chemist, Am. Encaustic Tiling Co, 90–93; *manager,* Mosaic Tile Co, Zanesville, O, and N. Y. City, 94–04; *Ceramic Lab, Washington, 04–* F.A.A; Chem. Soc. Difference between glass and pottery glazes; aventurin glazes; chemical character of American pottery glazes; kiln constructions and foundations.—Fire clays of the United States.

Langley, Prof. John W(illiams), 2037 Geddes Ave, Ann Arbor, Mich. *Chemical and electrical engineering.* Boston, Mass, Oct. 21, 41. B.S, Harvard, 61; Ph.D, Michigan, 89. Asst. prof. math, U. S. Naval Acad, 69–71; *prof.* chem,

Western Univ. of Pa, 71–74; chem. and metal, Michigan, 74–89; elec. eng, *Case*, 92–05, *electrometal, 05–* Min. Eng; hon. mem. West. Pa. Eng. Soc; Cleveland Civil and Elec. Eng. Clubs; cor. mem. British Ass. Pure chemistry; metallurgy; electricity.

Langley, Dr. S(amuel) P(ierpont), Smithsonian Institution, Washington, D. C. **Astrophysics.* Roxbury, Mass, Aug. 22, 34. Boston High Sch. Asst, Harvard Col. Observatory, 65; asst. prof. math, U. S. Naval Acad, 66; director, Allegheny Observatory, 67–87; *sec'y, Smithsonian Inst, 87–* Trustee, Carnegie Inst. Rumford medal, Royal Soc. and Am. Acad; Henry Draper medal, Nat. Acad; Janssen medal, Inst. de France; LL.D, Harvard, Princeton, Michigan, Wisconsin and Yale; hon. Ph.D, Stevens; D.C.L, Oxford; Sc.D, Cambridge. Nat. Acad; F.A.A. (sec'y, A, 75, v. pres, 79, 85, pres, 87); Astron. and Astrophys. Soc; Am. Acad; Philos. Soc; Wash. Acad; for. mem. Royal Astron. Soc; cor. mem. Inst. de France; cor. mem. Reale Inst. Veneto. Solar physics; aerodromics.

Langmuir, Dr. A(rthur) C(omings), 9 Van Brunt St, Brooklyn, N. Y. *Chemistry.* Chicago, Ills, Feb. 7, 72. Ph.B, Columbia, 93; Ph.D, Heidelberg, 95. Asst. to Prof. C. F. Chandler, N. Y. City, 95–96; head chemist, Ricketts and Banks, N. Y. City, 96–00; *chemist and supt, Marx and Rawolle, Brooklyn, 00–* Consulting prof. shellac, varnishes and glycerin refining, Brooklyn Polytech. Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Analytical chemistry, shellac and glycerin.

Langsdorf, Prof. A(lexander) S(uss), 3133 Laclede Ave, St. Louis, Mo. *Electrical engineering.* St. Louis, Aug. 31, 77. B.S, Washington (St. Louis), 98; M.M.E, Cornell, 01. Instr. physics, *Washington (St. Louis)*, 98–00, asst. prof. *elec. eng*, 01–04, *prof, 04–* F.A.A; assoc. Elec. Eng; Eng. Educ; St. Louis Acad; St. Louis Eng. Club. Phenomena of alternating currents.—Regulation of alternators and transformers on unbalanced polyphase circuits; oscillations or hunting of rotary converters.

Langton, Dr. Daniel W(ebster), 175 Fifth Ave, New York, N. Y. *Geology.* Kemper Co, Miss, May 5, 64. A.B, Alabama, 82, Ph.D, 90. Asst, Ala. Geol. Surv, 82–90; asst. geologist, L. and N. R. R, 88–89; consulting geologist, Chesapeake and Ohio R. R. Co, 89–94; *landscape architect, 96–* Asst. prof. chem, Alabama, 89. Geol. Soc. Tertiary Eocene of the Gulf coast.

Lantz, D(avid) E(rnest), U. S. Department of Agriculture, Washington, D. C. *Mathematics, Zoology, Ornithology.* Juniata Co, Pa, March 1, 55. State Nor. Sch, Bloomsburg, Pa, 75, 85. Supt. schools, Manhattan, Kas, 78–83; prof. math, Kas. State Agr. Col, 83–97; principal, Co. High Sch, Chapman, Kas, 98–00; field agent, Kas. State Agr. Exp. Sta, 01–04; *asst. biologist, Div. Biol. Surv, U. S. Dept. Agr, 04–* Assoc. Ornith. Union; Kas. Acad. (sec'y, 95–01). Ornithology and mammalogy of Kansas; local flora and entomology.—Economic mammalogy of the United States.

Lanza, Prof. Gaetano, 22 W. Cedar St, Boston, Mass. **Mechanics, Mechanical and civil engineering.* Boston, Sept. 26, 48. C.E, Virginia, 69, B.S, C. E. and M.E, 70. Asst. instr. math, Virginia, 69–71; instr, *Mass. Inst. Tech*, 71–72, asst. prof, 72–75, *prof. theoret. and applied mech, 75–, in charge, Dept. Mech. Eng, 83–* F.A.A; Mech. Eng; Eng. Educ; Math. Soc; cor. mem. Nat. Geog. Soc; Naval Archit. and Marine Eng; Soc. Testing Materials; fel. Am. Acad; Boston Soc. Civil Eng; New Eng. R. R. Club; cor. mem. Brooklyn Inst; Appalachian Mt. Club; Int. Ass. Testing Materials; British Ass; London Soc. Arts; Circolo Italiano. Applied mechanics; strength of materials and other engineering subjects.

Larkin, Prof. Edgar L(ucene), Echo Mountain, Cal. *Astronomy, Astrophysics.* Freedom, Ills, April 5, 47. High Sch. Director, Observatory, New Windsor, Ills, 79–88; prof. astron. and director, Observatory, Knox, 88–95; *director, Lowe Observatory, Echo Mt, 00–* Astron. ed, 'Kansas City Review,' 81–87; science ed, 'San Francisco Examiner.' F.A.A; Astron. and Astrophys. Soc; Pacific Astron. Soc; S. Cal. Acad; Ills. Soc. Nat. Hist. Astronomy; spectroscopy; astrophysics.

Lartigau, Dr. A(ugust) J(erome), 731 Sutter St, San Francisco, Cal. **Bacteriology, Pathology.* San Francisco, Feb. 19, 75. M.D, California, 96. Asst, Bender Hygienic Lab, 96–99; instr. path, Columbia, 99–03; *asst. gynec, Med. Dept, California, and attending surgeon, San Francisco Maternity, 03–* Ass. Path. and Bact. Bacteriology of B. pyocyaneus; bacterial etiology of gall-stones; tuberculosis of adenoids; hyperplastic tuberculosis of caecum.

Latimer, Dr. Caroline, 25 W. Chase St, Baltimore, Md. *Physiology.* Baltimore, March, 28, 60. M.D, Woman's Med. Col. of Baltimore, 90; A.B, A.M, Bryn Mawr, 96. Instr. biol, Woman's Col. of Baltimore, 97–99. Soc. Nat; Md. Med. and Chirurg. Faculty. Presence of amylolytic ferment and its zymogen in the salivary gland; modification of rigor mortis resulting from previous fatigue of the nerve in cold-blooded animals.—Toxic effect of the injection of the blood serum of one animal into the body of another.

Lattimore, Prof. S(amuel) A(llan), 595 University Ave, Rochester, N. Y. **Chemistry.* Liberty, Ind, May 31, 28. A.B, De Pauw, 50, A.M, 53. Classical tutor, De Pauw, 50–52, *prof.* Greek, 52–60; *chem*, Genesee, 60–67; *Rochester, 67–* Chemist, Board of Water Commissioners, Rochester, N. Y, 72; N. Y. State Board of Health, 81–85; N. Y. State Dept. Agr, 86–; acting pres, Rochester, 96–98. Hon. Ph.D, De Pauw, 73; LL.D, Hamilton, 73. F.A.A. (v. pres, 80); Chem. Soc.

Laufer, Dr. Berthold, American Museum of Natural History, New York, N. Y. *Ethnology.* Cologne, Germany, Oct. 11, 74. Berlin, 93–95;

Ph.D, Leipzig, 97. With Jesup Exped. to Siberia, 98–99; East Asiatic Committee Exped. to China, 01–04; *asst. ethnol, Am. Mus. Nat. Hist, 04–; lecturer anthrop, Columbia, 05–* Fel. Ethnol. Soc; Oriental Soc; Royal Asiatic Soc. of Shanghai; Morgenländ. Gesell; Tokyo Gesell. für Völkerkunde; Tokyo Anthrop. Soc. East Asiatic cultures; Buddhism and Tibetan literature; Chinese archeology and ethnology.—Chinese pottery; Chinese metal mirrors; popular amusements of China.

Laves, Dr. Kurt, 5611 Monroe Ave, Chicago, Ills. **Astronomy.* Lyck, Germany, Aug. 24, 66. Königsberg, 86–87; Ph.D, Berlin, 91. Asst, Royal Observatory, Berlin, 92–93; docent *astron, Chicago,* 93–97, instr, 97–01, *asst. prof, 01–* Math. Soc; Astron. and Astrophys. Soc; Astron. Gesell. Lunar equation and the solar parallax; effective potential forces.—Cases of libration in the system of small planets; the system Saturn, Hyperion and Titan.

Lawrence, Prof. Henry E(dmund), 69 Dartmouth St, Rochester, N. Y. *Physics.* Sodus, N. Y, Aug. 2, 64. A.B, Rochester, 89; Cornell, 92–94. Instr. *physics,* Cornell, 92–94; *Rochester,* 94–95, assoc. prof, 95–01, *prof, 01–* M.A.A; Physical Soc; Rochester Acad.

Lawson, Prof. Andrew C(owper), Berkeley, Cal. **Geology.* Anstruther, Scotland, July 25, 61. A.B, Toronto, 83, A.M, 85; Ph.D, Hopkins, 88. Geologist, Can. Geol. Surv, 82–90; *prof. miner. and geol, California, 90–* F.A.A; Geol. Soc; Wash. Acad. Archean geology; petrography; geology of California.—Economic geology; geomorphology.

Lay, Dr. Wilfrid, 509 W. 124th St, New York, N. Y. *Psychology.* Brooklyn, N. Y, Jan. 3, 72. A.B, Columbia, 93, Ph.D, 98. *Instr. Latin and English, DeWitt Clinton High Sch, 99–* Instr. logic, N. Y. Training Sch. for Teachers, 04–05. Mental imagery.

Lazenby, Prof. William R(ane), 348 W. Eighth Ave, Columbus, O. *Horticulture, Forestry.* Bellona, N. Y, Dec. 5, 52. B.Agr, Cornell, 74; M.Agr, Iowa State, 87. Instr. hort. and bot, Cornell, 74–77, asst. prof. hort, 77–81; *prof.* bot. and hort, *Ohio State,* 81–92, *hort. and forestry, 92–* Director, Ohio Exp. Sta, 82–87. F.A.A. (sec'y, I, 87, 95, v. pres, 96); Pomol. Soc; Forestry Ass. (v. pres, 96–); Soc. Hort. Sci; Soc. Prom. Agr. Sci. (sec'y, 86–91, pres, 95–97); Ohio Acad. (pres, 02); Ohio Forestry Soc. (pres, 04–). Cross fertilization of plants; growth of trees; the honey-bee as a pollinator of plants; timber trees of Ohio; relation of hygroscopic moisture of fruit plants to their hardiness; economic uses of wood.—Dietetic value of fruit; physical properties of wood.

Leach, Albert E(rnest), Room 501, State House, Boston, Mass. *Chemistry.* Boston, April 7, 64. B.S, Mass. Inst. Tech, 86, grad. student, 94–96. Patent expert, 87–92; asst. analyst, *Mass. Board Health,* 92–99, *analyst in charge, Food and Drug Lab, 99–* Consulting chemist, Sanit. Lab. of Robert Spurr Weston, 04–; consulting prof. foods and their adulteration, Brooklyn Polytech, 05–06. Gold medal, La. Purchase Expos, 04. Chem. Soc; Ass. Off. Agr. Chemists (assoc. referee, 00–); Nat. Ass. State Dairy and Food Departments; Boston Soc. Arts. Methods and results of the analysis of various foods.—Detection and determination of various food and drug adulterants.

Leach, Dr. Mary F(rances), 74 Pitcher St, Detroit, Mich. *Chemistry.* Payson, Ills, March 22, 58. Mt. Holyoke, 80; B.S, Michigan, 93; Göttingen, 97–98; Zürich, 98–00; fellow, Michigan, 01–04, Ph.D, 03. Teacher, pub. schools, Mass. and Mo, 78–79, 81–85; High Sch, Sedalia, Mo, 85–89; Detroit, 89–91; prof. chem, Mt. Holyoke, 93–00. F.A.A; Chem. Soc. Vertheilungscoefficient; nitrogenous condensation products.—Chemistry of bacillus coli communis.

Leaming, Dr. Edward, 33 W. 67th St, New York, N. Y. *Photography, Photomicrography.* New York, Sept. 1, 61. Columbia, 80–84, M.D, 92; Edinburgh, 90. Asst. *photog, Dept. Path, Columbia, 93–95, instr, 95–* Four medals, Soc. Am. Photog, 93; medal, Royal Photog. Soc, 94. F.A.A; N. Y. Path. Soc; fel. Royal Photog. Soc; London Camera Club; Calcutta Photog. Soc. Polychromatic photomicrography; action of colored light on Amoeba proteus.—Trichromatic lantern slides; comparative value of anilins for trichromatic photography; color filters for trichromatic photography.

Leary, Dr. Timothy, 168 Newbury St, Boston, Mass. *Pathology, Bacteriology.* Waltham, Mass, 70. M.D, Harvard, 95. First res. asst. pathologist, Boston City Hosp, 95–97; asst. prof. *path. and bacter, Tufts,* 97–00, *prof, 00–* Ass. Path. and Bact; Boston Soc. Med. Sci; Boston Soc. Med. Improv; Boston Med. Library Ass. Etiology of cancer; regeneration and process of repair.

Leathers, Dr. Waller S(mith), University, Miss. *Zoology.* Albemarle Co, Va, Dec. 4, 72. Grad, Miller Inst, Va, 90; A.M, Schools of Biol, Geol. and Chem, Virginia, 92, M.D, 94; Hopkins, 95; Chicago, summers, 97, 00, 01, 03. Instr. biol, Virginia, 94; asst. prof. biol. and geol, Mississippi, 94–95; head, Dept. Science, Miller Inst, 95–96; adj. prof. biol. and geol, South Carolina, 96–98; *prof. biol, Mississippi, 98–* Mem. Gulf Shore Scientific Exped. and Rocky Mt. Scientific Exped. M.A.A; Miss. Hist. Soc. Mitosis; pituitary gland; histological methods; history of the yellow fever epidemics of Mississippi; parasites infecting the human body.

Leavenworth, Prof. F(rancis) P, 1628 Fourth St, S. E, Minneapolis, Minn. *Astronomy.* Mt. Vernon, Ind, Sept. 3, 58. A.B, Indiana, 80; Cincinnati Observatory, 82; Virginia, 84; A.M, Indiana, 87. Asst, Observatory, Virginia, 84; director, Observatory, Haverford, 87–92; asst. prof. *astron, Minnesota,* 92–97, *prof, 97–* Astron. and Astrophys. Soc. Double star measurements; discovery of nebulae; stellar parallax; astronomical photography.—Position of

Eros; parallax of sun from photographic plates of Eros.

Leavenworth, Prof. W(illiam) S(towell), Olivet, Mich. *Chemistry.* Brattleboro, Vt, July 28, 62. B.S, Hamilton, 89, M.S, 92; Harvard, summers, 89, 90; Chicago, summers, 99, 01. Asst. chem, Hamilton, 88–89; *prof.* chem. and physics, Ripon, 89–03; *chem, Olivet, 03–* Acting principal, State Nor. Sch, Castleton, Vt, 92. Chem. Soc; Wis. Acad. The marble region of New England; a method of analyzing the inorganic acids; some derivatives of wood tar; methods of sewage disposal.—Action of dehydrating agents upon the water of crystallization.

Leavitt, Dr. R(obert) G(reenleaf), Stoughton, Mass. *Botany.* North Parsonfield, Me, Sept. 28, 65. A.B, Harvard, 89, A.M, 98, Ph.D, 04. Science master, de Veaux Sch, N. Y, 90–91; head master, Concord Home Sch, Mass, 91–93; teacher physics, Williston Sem, Mass, 93–97; asst. bot, Harvard and Radcliffe, 97–99; *investigator, Ames Bot. Lab, 99–* Director, Summer Courses Bot, Harvard, 03– New Eng. Bot. Club; Boston Soc. Nat. Hist. Roots of vascular cryptogams, monocotyledons and angiosperms.—Laws of reversions; modes of evolution; biological education.

LeBaron, Capt. J(ohn) Francis, Chardon, O. *Engineering, Geology.* Boston, Mass, Sept. 28, 47. Acad. Asst. and chief engineer, Fitchburg R. R, 71–77; chief, Archeol. Exped. to Florida, 77–78; discoverer, Fla. Phosphate Deposits, 81; asst. engineer, U. S. A, 81–83, 90; asst. div. and first asst. engineer and acting gen. supt, Nicaragua Canal surveys and construction, 87–90; chief engineer, Am. Honduras Co, 98–02; pres, Moccasin Falls Ginseng Co, 02–05. U. S. deputy surveyor, 80–00; asst. engineer, Fla. Ship Canal Surv, 83; commissioner, Nicaragua Canal Co. to Nicaraguan Govt, 89; engineer for various corporations, canals and railroads. F.A.A; Civil Eng; South. Civil Eng. (sec'y); Cleveland Eng. Club. Engineering science; Isthmian canals; archeology; agricultural engineering and tropical agriculture; economic geology; the woods of Central America.—Agricultural engineering; tropical agriculture; medicinal plants; anti-torpedo woods in sea water; rainfall; temperature; magnetic declinations.

LeCount, Dr. E(dwin) R(aymond), 6026 Monroe Ave, Chicago, Ills. **Pathology.* Fond du Lac, Wis, April 1, 68. Carroll, 87–88; M.D, Rush Med. Col, 92; Hopkins Hosp, 93–94; Pasteur Inst, Paris, 96; Berlin, 05. Resident, Cook Co. Hosp, 92, 93; *assoc. prof. path, Rush Med. Col, 92–* Attending pathologist, Cook Co. Hosp. Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Ills. Med. Soc; Chicago Path. Soc. Pathology; the relationship between tumors and chronic inflammation; carcinoma of the Fallopian tubes; 'Plimmer's bodies'; lymphoma; hypernephroma; Christian Fenger as pathologist; focal necrosis in tuberculosis; tuberculosis of the mammary gland; cholesterin giant-cells; aneurisms of the heart; primary carcinoma of the lung.

Ledoux, Dr. Albert R(eid), 99 John St, New York, N. Y. *Chemistry, Metallurgy.* Newport, Ky, Nov. 2, 52. Sch. of Mines, Columbia, 70–73; Berlin, 73–75; Ph.D, Göttingen, 75. State chemist, N. C, 77–80; consulting expert, N. Y. City Board of Elec. Control, 89–90; *consulting engineer to several mining companies, 80–* Pres. and director, mining and mfg. companies. Hon. M.S, North Carolina, 81. F.A.A; Chem. Soc; Min. Eng. (pres.); Elec. Eng; Soc. Chem. Indust; fel. N. Y. Acad; N. Y. Sci. Alliance; Can. Min. Inst. Cost and method of treatment of ores of copper, nickel, etc.

Lee, Prof. Frederic S(chiller), 125 E. 65th St, New York, N. Y. **Physiology.* Canton, N. Y, June 16, 59. A.B, St. Lawrence, 78, A.M, 81; Ph.D, Hopkins, 85; Leipzig, 85–86. Instr. biol, St. Lawrence, 86–87; physiol. and histol, Bryn Mawr, 87–88, assoc, 88–91; demonstrator, *physiol, Columbia,* 91–95, adj. prof, 95–04, *prof, 04–* Mem. Board of Editors, 'Am. Jour. Physiol,' 98– F.A.A. (sec'y, K, 02–04); Soc. Nat; Physiol. Soc. (sec'y and treas, 94–04); Soc. Exp. Biol. and Med; Harvey Soc. (treas, 05–); fel. Ethnol. Soc; assoc. Am. Med. Ass; fel. N. Y. Acad. Action of pressure and blood on blood-vessels; electric phenomena of muscle; action of salts on arteries; sense of equilibrium; function of lateral line; muscle fatigue; muscle rigor; theory of phototaxis; action of alcohol on muscle; action of alcohol on contractile protoplasm.—Muscle fatigue; muscle rigor; action of phlorhizin on muscle; physiological properties of diaphragm muscle; mutation in primroses.

Lee, Prof. Leslie A(lexander), 3 Bath St, Brunswick, Me. **Zoology, Geology.* South Woodstock, Vt, Sept. 24, 52. A.B, St. Lawrence, 72; Harvard, 74; A.M, St. Lawrence, 75, Ph.D, 85. Teacher science, Goddard Sem, 73; Dean Acad, 74–76; *prof. biol. and geol, Bowdoin, 76–* Naturalist, voyage of 'Albatross,' 87–88; instr. biol. and geol, Bangor Theol. Sem, 00–; chairman, Me. Topog. Surv. Commission, 99–; state geologist, Me, 03– M.A.A; Soc. Nat; Soc. Zool; Nat. Geog. Soc; Portland Soc. Nat. Hist. (pres, 04–). Vertebrate anatomy; Foraminifera; geography and zoology of Labrador.—Mammals of Maine; geology of Maine.

Lee, Prof. Thomas G(eorge), University of Minnesota, Minneapolis, Minn. **Histology, Embryology.* Jacksonville, N. Y, Nov. 27, 60. B.S, M.D, Pennsylvania, 86; B.S, Harvard, 92. Asst. histol. and embryol, Pennsylvania, 84–86; lecturer histol. and embryol. and director, Lab, Yale, 86–91; asst. histol, Radcliffe, 91–92; *prof. histol. and embryol. and director, Lab, Minnesota, 92–* M.A.A; Soc. Nat; Ass. Anat; Soc. Zool; fel. Minn. Acad. Med. Vertebrate embryology; early development of mammals; the embryology of Spermophilus trideecmlineatus and other rodents.—The placentation of Spermophilus tridecemlineatus.

Lee, Prof. Willis T(homas), U. S. Geological Survey, Washington, D. C. *Geology.* Brooklyn, Pa, Dec. 24, 64. Ph.B, Wesleyan, 94, B.S, 98; fellow, Chicago, 98–00. Instr. science, R. I. Col. Agr, 94–95; prof. geol. and biol, Denver, 95–98; principal, High Sch, Trinidad, Colo, 00–02; *asst. geologist, U. S. Geol. Surv, 02–* F.A.A; Geol. Soc. Geology.—Stratigraphic problems of the southwestern part of the United States and their application to ground waters.

Leeds, Morris E(vans), 3221 N. 17th St, Philadelphia, Pa. *Physics.* Philadelphia, March 6, 69. A.B, Haverford, 88; Berlin, 92–93. With Queen and Co, Philadelphia, 89–99; Morris E. Leeds and Co, 99–03; *pres, The Leeds and Northrup Co, 03–* M.A.A; Physical Soc; Elec. Eng; Franklin Inst; Phila. Photog. Soc.

Lefavour, Dr. Henry, Simmons College, Boston, Mass. **Physics, Education.* Salem, Mass, Sept. 4, 62. A.B, Williams, 83, Ph.D, 86; Berlin, 88–90. Instr, Williston Sem, 83–84; physics and math, Williams, 84–88, prof. physics, 88–02, dean, 97–02; *pres, Simmons (Mass.), 02–* LL.D, Williams, 02; Tufts, 05. F.A.A; Physical Soc; fel. Am. Acad. Astronomy; chemical physics.

Lefevre, Prof. Albert, University of Virginia, Charlottesville, Va. *Philosophy.* Baltimore, Md, Oct. 4, 73. A.B, Texas, 94; Hopkins, 94–95; Cornell, 95–98, fellow, 97–98, Ph.D, 98; Berlin, 99–00. Lecturer *philos,* Cornell, 98–99, instr, 00–02, asst. prof, 02–03; *prof,* Tulane, 03–05; *Virginia, 05–* Asst. to editors, 'Philos. Rev,' 98–99. LL.D, South Carolina. Philos. Ass; S. Soc. Philos. and Psychol. The ethical system of Bishop Butler; the relation between epistemology and ethical method.—The epistemological bases of ethical theories.

Lefevre, Prof. George, Columbia, Mo. **Zoology.* Baltimore, Md, Sept. 16, 69. A.B, Hopkins, 91, fellow, 94–97, Ph.D, 96. Asst. *zool,* Hopkins, 97–98; *prof, Missouri, 99–* Instr. zool, Woods Hole, 98–00. Soc. Nat; Soc. Zool; St. Louis Acad; Boston Soc. Nat. Hist. Bud development, embryology and anatomy of Tunicata; regeneration and grafting in Cordylophora; artificial parthenogenesis in Thalassema.—Artificial parthenogenesis; artificial propagation of fresh-water mussels; bud development of Bryozoa.

Leffmann, Dr. Henry, 119 S. Fourth St, Philadelphia, Pa. **Chemistry.* Philadelphia, Sept. 9, 47. A.M, Central High Sch, Phila, 65; M.D, Jefferson Med. Col, 69. *Prof. chem,* Pa. Col. Dental Surg, 84–99; *Woman's Col. of Pa, 88–; Wagner Free Inst, 88–* Port physician, Phila, 84–87, 91–92. Hon. Ph.D, Wagner Free Inst, 74. Chem. Soc; Franklin Inst; British Soc. Pub. Analysts.

Legras, Prof. Gustave, 17 Lexington Ave, New York, N. Y. *Mathematics.* New York, Jan. 24, 58. B.S, Col. City of N. Y, 79, M.S, 96. Tutor and instr. *math, Col. City of N. Y,* 81–97, *asst. prof, 97–* M.A.A; Math. Soc; Social Sci. Ass; Acad. Polit. and Social Sci. Theory of algebraic equations; evolution and philosophy of infinitesimal calculus.—History and teaching of mathematics.

Lehman, A(mbrose) E(dwin), 208 S. 43d St, Philadelphia, Pa. *Geology, Topography, Mining.* Lebanon, Pa, May 23, 51. Pub. sch. and private instruction. Geol. engineer and asst, geologist, Pa. Geol. Surv, 74–86; asst. chief and chief engineer, various railroads, 82–89; *consulting engineer, 89–* Mem. Board Civil Service Examiners, Dept. Munic. Eng, Phila. Philos. Soc; Phila. Eng. Club.

Lehmann, Prof. G(ustav) W(illiam), City Hall Annex, Baltimore, Md. *Chemistry, Metallurgy, Bacteriology.* Wiesbaden, Germany, Aug. 20, 44. Polytech, Wiesbaden. *Chemist, U. S. Govt, 78–; chief chemist, Board of Health, Baltimore, 96–* Mining engineer and metallurgist of several mines; expert for fertilizer works; chief chemist and metallurgist, Baltimore Copper Smelting and Rolling Co, 66–92; gen. manager, various companies, 70– F.A.A; Chem. Soc; Min. Eng; Pub. Health Ass; Ass. Off. Agr. Chemists; Wash. Chem. Soc; Md. Health Ass. Introduction of electrolytic assay of copper into the United States; experiments on electrolytic deposition of copper on commercial scale with a Siemens dynamo.—Chemistry and bacteriology of food products, milk and water.

Lehmer, Dr. D(errick) N(orman), 2736 Regent St, Berkeley, Cal. *Mathematics.* Somerset, Ind, July 27, 67. A.B, Nebraska, 93, A.M, 96; Ph.D, Chicago, 00. Head master, Worthington Mil. Acad, 96–97; instr. *math, California,* 00–04, *asst. prof, 04–* Math. Soc. Theory of numbers; synthetic geometry.—Construction of table of smallest divisions of all numbers less than ten millions by new method.

Lehnerts, Prof. Edward M, 456 E. Sanborn St, Winona, Minn. *Geography.* Winona, March 29, 73. B.S, Pennsylvania, 02. Instr. *geog, State Nor. Sch, Winona, Minn,* 96–98, *prof, 98–* Director, Am. Bur. Geog, 00–02; ed, 'Jour. Geog,' 02–05. Nat. Educ. Ass. Physical geography; commercial geography; the teaching of geography.—Physical and economic geography of the driftless area of the upper Mississippi Valley.

Leidy, Dr. Joseph, Jr, 1319 Locust St, Philadelphia, Pa. *Medicine.* Philadelphia, April 11, 66. A.B, Phila. High Sch, 84, A.M, 89; M.D, Pennsylvania, 87. Asst. demonstrator path, histol. and morbid anat, Pennsylvania, 88, anat, 90. Physician to various hospitals, Phila. Officier de l'Instruction Pub, 00. Mem. Jury of Awards (Hygiene), and official delegate to Int. Cong. Hygiene, Paris Expos, 00. M.A.A; Ass. Anat; Phila. Acad; Phila. Col. Physicians. Pathology; general medicine; public hygiene.

Leighton, Prof. J(oseph) A(lexander), Geneva, N. Y. *Psychology, Philosophy.* Orangeville, Ont, Dec. 2, 70. A.B, Trinity (Can.), 91; Ph.D, Cornell, 94; B.D, Episcopal Theol. Sch, 96; Tübingen, Berlin and Erlangen, 96–97. Ex-

aminer philos, Trinity (Can.), 92–94; *prof. philos, Hobart, 97–* Psychol. Ass; Philos. Ass. Philosophy, especially German philosophy and epistemology.—The nature of personality; logic; epistemology; metaphysics.

Leighton, Marshall O(ra), U. S. Geological Survey, Washington, D. C. *Sanitary and hydrographic engineering.* Corinna, Me, May 1, 74. B.S, Mass. Inst Tech, 96. Supt. Health, Montclair, N. J, 96–02; *res. hydrographer, U. S. Geol. Surv, 02–, chief, Div. of Hydro-Econ, 03–* Practising sanit. engineer and consulting expert, 00; North N. J. Flood Commission, 03–; Passiac River Flood Commissioner, 05. Assoc. mem. Civil Eng; Pub. Health Ass; Soc. Testing Materials; New Eng. Water Works Ass. Public hygiene; sewage disposal; water purification and economics and vital statistics relating thereto.—Duration of heart standstill with minimal and supraminimal vagus stimulation; bacteria in milk; pecuniary value of life; sewage pollution in metropolitan area; Passiac floods of 1902 and 1903; etc.

Leith, Dr. C(harles) K(enneth), 240 Langdon St, Madison, Wis. *Geology.* Trempealeau, Wis, Jan. 20, 75. B.S, Wisconsin, 97, Ph.D, 01. Asst. prof. *geol, Wisconsin,* 02–03, *prof, 03–* Asst. geol, U. S. Geol. Surv, 00–05; non-res. prof. struct. and metamorph. geol, Chicago, 05– Geol. Soc. Pre-Cambrian, structural, metamorphic and economic geology.—Geology of the United States iron districts and origin of iron ores.

Leng, Charles William, 119 Columbia St, West New Brighton, N. Y. *Entomology.* West New Brighton, April 6, 59. B.S, Brooklyn Polytech, 77. *Senior partner, John S. Leng's Son and Co, merchants, 88–* M.A.A; Brooklyn Entom. Soc. (curator, 90); N. Y. Entom. Soc; Staten Isl. Nat. Sci. Ass. Coleoptera; Cerambycidae; Donacia; Cicindelidae.—The family Coccinellidae; the tribe Cryptocephalini.

Lengfeld, Dr. Felix, 202 Stockton St, San Francisco, Cal. **Chemistry.* San Francisco, Feb. 18, 63. Ph.G, California, 80, grad. student, 84–86; Hopkins, 86–88, fellow, 88, Ph.D, 88; Zürich, Liège and Munich, 88–90. Prof. chem, S. Dak. Sch. of Mines, 90–91; instr, California, 91–92; docent, later instr. and asst. prof, Chicago, 92–01; *consulting and mfg. chemist, 01–* F.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Gesell; Soc. chim. de Paris. Organic and inorganic chemistry.—Chemistry.

Lenher, Prof. Victor, 158 Summit Ave, Madison, Wis. **Chemistry.* Belmond, Ia, July 13, 73. Dickinson, 90; certificate in chem, Pennsylvania, 93, Ph.D, 98. Asst. chem, California, 93–96; Columbia, 98–00; asst. prof. gen. and theoret. chem, *Wisconsin,* 00–04, *assoc. prof. chem, 04–* Instr. chem, Evening High Sch, N. Y. City, 99–00. F.A.A; Chem. Soc; Wis. Acad; Chem. Gesell; Soc. chim. de Paris. Inorganic chemistry; rare elements.—Tellurium; inorganic chemistry.

Lennon, Prof. William H, 107 Adams St, Brockport, N. Y. *General science.* Preston Hollow, N. Y, Aug. 15, 38. A.B, Genesee, 67, A.M, 70. *Head, Dept. Science, State Nor. Sch, Brockport, N. Y, 69–, v. principal, 82–* F.A.A.

Lenox, Prof. L(ionel) R(emond), Stanford University, Cal. *Chemistry.* Brooklyn, N. Y, March 8, 65. Ph.B, Columbia, 88. Instr. chem, Lehigh, 88–91; *Stanford,* 92–93, asst. prof, 93–94, assoc. prof. *anal. chem,* 94–96, *prof, 96–* Chemist, Bur. Ordnance, U. S. N, 91–92. Chem. Soc.

Leonard, Prof. A(rthur) G(ray), University of North Dakota, Grand Forks, N. Dak. *Geology, Mineralogy.* Clinton, N. Y, March 15, 65. A.B, Oberlin, 89, A.M, 95; Ph.D, Hopkins, 98. Prof. geol. and biol, Western, 94–96; asst. state geologist, Ia. Geol. Surv, 96–97; asst. prof. geol, Missouri, 99–00; asst. state geologist, Ia. Geol. Surv, 00–03; *prof. geol, North Dakota, and state geologist, 03–* Geol. Soc; Nat. Geog. Soc; Iowa Acad. The lead, zinc and coal deposits of Iowa; the Silurian formations of northeastern Iowa; basic rocks of northeastern Maryland.—The Cretaceous and Pleistocene formations of North Dakota.

Leuba, Dr. James H(enry), Bryn Mawr, Pa. **Psychology, Philosophy.* Neuchâtel, Switzerland, April 9, 68. B.S, Neuchâtel, 86; Ph.D, Clark, 95. *Assoc. prof. psychol. and educ, Bryn Mawr, 98–* Psychol. Ass; Philos. Ass. Psychology of ethics and of religion.

Leuschner, Prof. A(rmin) O(tto), 2333 Cedar St, Berkeley, Cal. **Astronomy.* Detroit, Mich, Jan. 16, 68. Grad, Royal Friederichs and Wilhelms Gym, Cassel, Germany, 86; A.B, Michigan, 88; California and Lick Observatory, 88–92; Ph.D, Berlin, 97. Instr. math, *California,* 90–92, asst. prof, 92–94, *astron. and geod,* 94–98, *assoc. prof. and director, Students' Observatory, 98–, in charge, Berkeley Astron. Dept, 00–* Hon. Sc.D, Western Univ. of Pa, 00. Astron. and Astrophys. Soc; Math. Soc; Pacific Astron. Soc; fel. Royal Astron. Soc; Astron. Gesell. Theoretical astronomy.—Perturbations of the Watson asteroids; improvement in the methods of determining preliminary orbits of comets and planets.

Levene, Dr. P(hoebus) A(aron Theodore), 129 W. 136th St, New York, N. Y. **Physiological chemistry.* Herter, Russia, Feb. 25, 69. St. Petersburg Imp. Mil. Med. Acad, 91. *Lecturer path. chem, Univ. and Bellevue Hosp. Med. Col.* M.A.A; Soc. Nat; Physiol. Soc; Ass. Path. and Bact; Chem. Soc; Soc. Exp. Biol. and Med; N. Y. Path. Soc; Chem. Gesell. Chemistry of combined proteids (mucoids and nucleins); bacterial chemistry; enzymes; embryochemistry; glycothionic acid; glycophosphoric and nucleic acids; enzymes and antienzymes; autolysis of animal organs; composition of proteases.

Leverett, Frank, 312 N. Thayer St, Ann Arbor, Mich. **Geology, Physiography, Hydrology.* Denmark, Ia, March 10, 59. B.S, Iowa State, 85. Instr. nat. science, Denmark Acad, Ia, 80–83; field

asst, *U. S. Geol. Surv*, 86–90, asst. geologist, 90–01, *geologist, 01–* Collected soils and made soil map of Ills. for Columbian Expos, 93. F.A.A; Geol. Soc; Forestry Ass; Social Sci. Ass; Acad. Polit. and Social Sci; Nat. Geog. Soc; Wis, Iowa and Mich. Academies; Wash. Geol. Soc. Glacial geology; physiography; water resources. —Glacial investigations in Iowa, Illinois, Indiana, Ohio, Kentucky, Pennsylvania, New York and Michigan.

Levin, Dr. Isaac, 1883 Madison Ave, New York, N. Y. *Physiology, Pathology.* Sagor, Russia, Nov. 1, 66. M.D, St. Petersburg Imp. Mil. Med. Acad, 90. Physiol. Soc; Ass. Path. and Bact; Soc. Exp. Biol. and Med; N. Y. State Med. Ass; N. Y. Path. Soc. Fat absorption; proteid absorption; physiology of thyroid and adrenals; etiology of tumors.—Intracranial pressure; function of the spleen; hemolysis; function of the kidney capsule.

Levison, Wallace Goold, 1435 Pacific St, Brooklyn, N. Y. *Chemistry.* Brooklyn, Nov. 27, 46. B.S, Harvard, 70. Director, Lab, Cooper Union, 71–84. Fel. N. Y. Acad; N. Y. Miner. Club (sec'y, 03–05); Brooklyn Inst; Brooklyn Acad. of Photog. (pres, 87–90). Chemistry; photography of luminous objects; fluorescence and phosphorescence of minerals; classification of luminescent substances.—Fluorescence and phosphorescence of minerals and apparatus for illustrating same.

Levy, Dr. Ernest C(oleman), 615 E. Franklin St, Richmond, Va. *Sanitary chemistry, Bacteriology.* Richmond, Aug. 11, 68. Richmond; M.D, Med. Col. of Va, 90; Mass. Inst. Tech, 03–04. Prof. histol, path. and bacter, Med. Col. of Va, 97–00; *director, Lab, City Water Dept, Richmond, 04–* Ed, 'Med. Register,' 97–00; house physician, Mt. Sinai Hosp, N. Y. City, 02. M.A.A; Soc. Bact; Pub. Health Ass; Am. Water Works Ass; Am. Med. Ass; Va. Med. Soc; Richmond Acad. Med. and Surg. (pres, 00). Water supply and purification.—Purification of water of James River at Richmond, Va.

Lewis, Dr. Charlton T(homas), Morristown, N. J. *Life insurance.* West Chester, Pa, Feb. 25, 34. A.B, Yale, 53, A.M, 59. Prof. math, Ills. State Nor. Univ, 56–57; Troy Univ, 59–62. Lecturer principles of life insurance, Cornell, 99; Harvard, 00; Columbia, 00. Hon. Ph.D, N. Y. Univ, 77. Math. Soc; Actuarial Soc. Political economy and finance; penal legislation and prison discipline.

Lewis, Dr. D(ean) D(eWitt), 5551 Monroe Ave, Chicago, Ills. *Medicine.* Kewanee, Ills, Aug. 11, 74. A.B, Lake Forest, 95; M.D, Rush Med. Col, 99. Asst. *anat, Chicago*, 00–01, assoc, 01–03, *instr, 03–* Ass. Anat. Elastic tissue of the human larynx.—The hypophysis of man.

Lewis, Prof. (Exum) Percival, Berkeley, Cal. **Experimental physics.* Tyrrel Co, N. C, Sept. 15, 63. B.S, Columbian, 88; Ph.D, Hopkins, 95; Berlin, 98–00. Asst. *physics*, Hopkins, 91–95; instr, *California*, 95–96, asst. prof, 96–01, *assoc. prof, 01–* Instr. physics, Columbian, 91–95; asst. ed, Harper's 'Scientific Memoirs.' F.A.A; Physical Soc; Cal. Acad; British Ass. Spectra and discharge through gases.—Ultra-violet gaseous spectra; effect of changed condition on P spectra; ionization of gases.

Lewis, Dr. Frederic T(homas), Harvard Medical School, Boston, Mass. *Embryology.* Cambridge, Mass, March 18, 75. A.B, Harvard, 97, A.M, 98, M.D, 01. Austin teaching fellow, *Harvard Med. Sch*, 01–02, *instr. histol. and embryol, 02–* Ass. Anat; Boston Soc. Nat. Hist. Development of the vascular system.

Lewis, Dr. G(ilbert) N(ewton), 7 Fairfax Hall, Cambridge, Mass. **Physical chemistry.* Weymouth, Mass, Oct. 23, 75. Nebraska, 90–93; A.B, Harvard, 96, A.M, 98, Ph.D, 99; Leipzig and Göttingen, 00–01. Teacher, Phillips Acad, 96–97; *instr. chem, Harvard*, 99–00, *01–* In charge, Div. Weights and Measures, Bur. Govt. Laboratories, P. I, 04– Chem. Soc. Thermodynamic chemistry; fundamental laws of physico-chemical change; theory concerning thermal pressure; reaction velocity and equilibrium in the decomposition of silver oxid; galvanic polarization; potential of oxygen.

Lewis, Prof. J(oseph) Volney, Rutgers College, New Brunswick, N. J. *Geology.* Rutherford Co, N. C, Sept. 14, 69. B.E, North Carolina, 91; B.S, Harvard, 93; Hopkins, 93–94. Asst. geologist, N. C. Geol. Surv, 91–96; *prof. geol*, Clemson, 96–04; *Rutgers, 04–* Field asst, U. S. Geol. Surv, 91, 02; prof. physical geog, S. C. State Sch. for Teachers, summers, 00, 01; with N. J. Geol. Surv, 05– F.A.A; Min. Eng; Nat. Geog. Soc. Corundum and the peridotites of North Carolina and of the Appalachian region. —Petrography and petrology of the Appalachian peridotites and related basic magnesian rocks; geology of the Appalachian crystalline areas; Newark trap rock; copper ores of New Jersey.

Lewis, T(heodore) H(ayes), St. Paul, Minn. *Archeology.* Richmond, Va, Dec. 15, 57. Miami Commercial Col, 74. Chief, South. Archeol. Surv, winters, 78–95; Northwestern Archeol. Surv, 80–95. Life mem. Minn. Hist. Soc; Wis. Archeol. Soc; hon. mem. Miss. Hist. Soc. The mound-builders works.—Itinerary, topography and ethnology of the DeSoto expedition.

Lewis, Dr. Warren Harmon, Johns Hopkins University, Baltimore, Md. **Anatomy.* Suffield, Conn, June 17, 70. B.S, Michigan, 94; M.D, Hopkins, 00. Asst. zool, Michigan, 94–96; *anat, Hopkins*, 00–01, instr, 01–03, assoc, 03–04, *assoc. prof, 04–* Ass. Anat. Development of the arm in man; embryology of the eye; development of the head in man.

Lewis, Prof. W(illiam) E(van), 409 E. Fifth St, Cincinnati, O. *Medicine.* Pittsburg, Pa, Nov. 22, 53. *Prof. anat*, Cincinnati Col. of Med. and Surg, 89–02; *Miami Med. Col, 02–* Ass. Anat; Am. Med. Ass; Cincinnati Acad. Med. Anatomy.

Libbey, Prof. William, Princeton, N. J. *Physical geography.* Jersey City, N. J, March 27, 55.

A.B, Princeton, 77, A.M, Sc.D, 79. Asst. prof. *physical geog, Princeton, 82, prof. and director, E. M. Mus. of Geol, 83–* Prof. histol, Princeton, 83–98. Officier d'Acad. F.A.A; Soc. Nat; Geol. Soc; Geog. Ass; Am. Geog. Soc; Nat. Geog. Soc; Philos. Soc; cor. mem. Phila. Acad; Phila. Geog. Soc; cor. mem. N. Y. Acad; cor. mem. Boston Soc. Nat. Hist; N. Y. Hist. Soc; N. J. Hist. Soc; Alaskan Hist. Soc; fel. Royal Geog. Soc; fel. London Geol. Soc; hon. mem. Liverpool Geog. Soc; Soc. de Géog; Soc. géol. de France; cor. mem. Soc. de Géog. de Genève. Oceanography; Hawaiian volcanoes; Alaskan and Greenland glaciers; the Jordan valley.

Libman, Dr. E(manuel), 180 E. 64th St, New York, N. Y. *Bacteriology, Pathology.* New York, Aug. 22, 72. A.B, Col. City of N. Y, 91; M.D, Columbia, 94; Berlin and Vienna, 96–97. House physician, *Mt. Sinai Hosp, 94–96, asst. pathologist, 98–, adj. visiting physician, 03–* Ass. Path. and Bact; Am. Med. Ass; fel. N. Y. Acad. Med; N. Y. Path. Soc. Streptococcic intestinal infection; precipitation in serum-sugar media; growth of bacteria in presence of sugars and serum; sarcoma of the small intestine; paracolon infections; bacteriology of cerebro-spinal meningitis; Widal reaction; splenomegaly; systemic infections.—Bacteriologic studies of the blood in infections; biology of the gonococcus.

Lichty, D(avid) M(artin), 922 Olivia Ave, Ann Arbor, Mich. *Chemistry.* Goodville, Pa, July 10, 62. B.S, Pa. State Nor. Sch, 87; M.S, Michigan, 91. Asst. anal. chem, *Michigan,* 88–90, *instr. gen. chem, 91–* Chem. Soc. Rate of esterification of halogen substituted acids; electrolytic conductivity of γ and δ halogen acids.—Solubility of halogen salts of lead at different temperatures.

Lillie, Prof. Frank R(attray), University of Chicago, Chicago, Ills. **Zoology, Embryology.* Toronto, Can, June 27, 70. A.B, Toronto, 91; Clark, 91–92; Ph.D, Chicago, 94. Reader embryol, Chicago, 93–94; instr. zool, Michigan, 94–99; prof. biol, Vassar, 99–00; asst. prof. zool, *Chicago,* 00–02, *assoc. prof. embryol, 02–* Asst. director, Woods Hole; managing ed, 'Biol. Bul.' F.A.A; Soc. Nat. (mem. Exec. Committee, Eastern Branch); Soc. Zool. (pres, Central Branch, 05); Ass. Anat. Early history of ovum; fertilization of ovum; mechanics of development; power of regeneration of the embryo of the chick; physiology of the development of the organs of the chick.—Morphogenous substances.

Lillie, Prof. Ralph S(tayner), 709 S. 11th St, Lincoln, Nebr. **Physiology.* Toronto, Can, Aug. 8, 75. A.B, Toronto, 96; Michigan, 96–97; Ph.D, Chicago, 01; Naples Zool. Sta, 04–05. Instr. *physiol. and histol, Nebraska,* 02–03, *adj. prof, 03–* Instr. gen. and comp. physiol, Woods Hole, 01– Physiology of protoplasmic contractility; oxidation.—Action of non-electrolyte solutions on cell division of sea-urchin eggs.

Lincoln, Prof. A(zariah) T(homas), 1018 W. Oregon St, Urbana, Ills. *Physical chemistry.* Montfort, Wis, June 25, 68. B.S, Wisconsin, 94, M.S, 98, fellow, 98–99, Ph.D, 99. Teacher, pub. schools, 88–89, 90–91; science, High Sch, Monroe, Wis, 94–95; Fond du Lac, 95–96; asst. chem, Wisconsin, 96–98; private research asst. physical chem, Cornell, 99–00; instr. *chem,* Cincinnati, 00–01; *Illinois,* 01–04, *asst. prof, 04–* Teacher chem, Summer Sch, Wisconsin, 93–98. Chem. Soc; Electrochem. Soc. Physical chemistry.—Ternary mixtures and vapor pressure of solutions; electrochemistry.

Lincoln, Paul M(artyn), 6830 Thomas St, Pittsburg, Pa. *Electrical engineering.* Norwood, Mich, Jan. 1, 70. Western Reserve, 88–89; M.E, Ohio State, 92. With Brush Elec. Co, 92; Westinghouse Elec. and Mfg. Co, 92–95; elec. supt, Niagara Falls Power Co, 95–02; *elec. engineer, Westinghouse Elec. and Mfg. Co, 02–* F.A.A; Elec. Eng; Electrochem. Soc.

Lindahl, Dr. (Johan Harald) Josua, 312 Broadway, Cincinnati, O. *Zoology, Museum management.* Kongsbacka, Sweden, Jan. 1, 44. A.B, Lund, 63, Ph.D, 74. Asst, Dept. Evertebrates, Royal Mus. Nat. Hist, Stockholm, 71–75; docent zool, Lund, 75–78; prof. nat. hist, Augustana, 78–88; curator, State Mus, Springfield, Ills, 88–93; *director, Mus, Cincinnati Soc. Nat. Hist, 95–* Asst. zoologist, 'Porcupine' Exped, 70; zoologist, Swedish Exped. to Greenland, 71; sec'y, Royal Swedish Commission, Int. Geog. Cong, Paris, 75; Centennial Expos, 76. Officier d'Acad, Paris, 75; medals, Centennial Expos, 76; decorated Knight of Vasa by Oscar II. of Sweden, 78. Ohio Acad. (pres, 00); Cincinnati Soc. Nat. Hist; Swedish Soc. Anthrop. and Geol. Deep-sea coelenterates.—Variation in Batrachia caudata.

Lindenthal, G(ustav), 45 Cedar St, New York, N. Y. *Civil engineering, Political science.* Bruenn, Austria, May 21, 50. Govt. Col, Bruenn; private study, Vienna, 70. Asst. engineer, Vienna, 70–72; railroad, Switzerland, 72–74; Centennial Expos, Phila, 74–77; Atlantic and Great Western R. R, 78–81; *consulting engineer,* Pittsburg, 81–91; *N. Y. City, 91–* Chief engineer, Monongahela Bridge Co, 81–89; chief engineer and pres, North River Bridge Co, N. Y, 90–01; commissioner of bridges, N. Y, 02. Rowland prize, Civil Eng, 83. F.A.A; Cleveland Eng. Club; Can. Civil Eng; British Inst. Civil Eng. Long-span bridges; tunnels; foundations; temperature; stresses in suspension bridges; economic conditions of long span bridges.—Friction of car trucks around curves; longitudinal rigidity of steam railroad track.

Lindgren, W(aldemar), The Cecil, Washington, D. C. **Geology.* Kalmar, Sweden, Feb. 14, 60. M.E, Sch. of Mines, Freiberg, 83. Asst. geologist, Northern Transcont. Surv, 83; chemist, Gregory Smelting Works, Mont, 84; asst. geologist, *U. S. Geol. Surv,* 84–95, *geologist, 95–* Assoc. prof. mining and metal, Stanford, 98. M.A.A; Geol. Soc; Min. Eng. Gold, silver and

copper deposits.—Gold deposits of California; copper deposits of Clifton, Ariz.

Lindley, Prof. Ernest H(iram), 419 N. Washington St, Bloomington, Ind. **Psychology, Philosophy.* Paoli, Ind, Oct. 2, 69. A.B, Indiana, 93, A.M, 94; Ph.D, Clark, 97; Jena, Leipzig and Heidelberg, 97–98; Harvard, 04–05. Instr. philos, *Indiana,* 93–98, assoc. prof. *psychol,* 98–02, *prof, 02–* Instr, Summer Sch, Clark, 96, 99, 01. F.A.A; Psychol. Ass. Motor and mental automatisms; psychology of puzzles; work and rest; psychology of arithmetical prodigy; mental adaptation.—Psychology of invention; arithmetical prodigy; psychology of the English sparrow; psychology and pedagogy of leadership; psychology of prayer; religious psychology of the Mennonites; some relations of mental hygiene to practical ethics; philosophy and psychology of value.

Lindsay, Dr. Charles F(owler), 26 Tay St, Schenectady, N. Y. *Electrochemistry.* Halifax, Can, Sept. 6, 79. A.B, Dalhousie, 99; Ph.D, Hopkins, 02. Instr. chem, McGill, 00–01; *research chemist, Gen. Elec. Co, 03–* Research chemist, Repauno Chem. Co, Chester, Pa. Electrical properties of solutions.—Incandescent filaments; arc lamps.

Lindsey, Edward, Warren, Pa. *Law, Anthropology.* Warren, Dec. 17, 72. A.B, Dartmouth, 90; LL.B, N. Y. Law Sch, 93. M.A.A; Soc. Nat; Anthrop. Ass; Folk-lore Soc; Warren (Pa.) Acad. Examination by anthropological methods of laws and legal concepts of primitive and civilized peoples.—Examination by anthropological methods of early so-called codes.

Lindsey, Dr. J(oseph) B(ridgeo), 47 Lincoln Ave, Amherst, Mass. *Chemistry.* Marblehead, Mass, Dec. 26, 62. B.S, Mass. Agr. Col, 83; Ph.D, Göttingen, 91; Zürich, 91–92. *Chemist, Hatch Exp. Sta, 92–* Chem. Soc; Soc. Prom. Agr. Sci. Chemistry of carbohydrates; chemistry of dairying.—Effect of feed constituents upon the composition of milk and butter fat.

Linebarger, C(harles) E(lijah), Ravenswood, Chicago, Ills. **Physical chemistry.* Plainfield, Ills, Feb. 21, 67. A.B, Northwestern, 88; Tübingen, 89–90; Paris, 90–91; Göttingen, 92–93; Paris, 93–94. *Teacher,* N. Div. High Sch, *Chicago,* 91–92, S. Div. High Sch, 94–96, *Lake View High Sch, 96–* Ed, 'Sch. Science'; mem. Board of Reviewers, 'Jour. Physical Chem.' Chem. Soc. The properties of solutions; surface tension of liquids.—Improvements in the steam calorimeter; the specific heats of the solid elements; properties of concentrated solutions.

Ling, Dr. Charles J(oseph), Manual Training High School, Denver, Colo. *Physics, Astronomy.* Auburn, N. Y, Dec. 8, 67. B.S, Cornell, 90; A.M, Denver, 00, Ph.D, 02. Prof. nat. science, State Nor. Sch, La, 90–92; teacher science, High Sch, Pueblo, 92–94; *instr. physics, Manual Training High Sch, Denver, 94–* Instr. math. and astron, summer term, Denver, 03. F.A.A. Strong solutions with special reference to change of density with temperature; maximum density; freezing and boiling points; observations of Eros.—Densities of strong solutions; observations of Eros.

Ling, Dr. G(eorge) H(erbert), Columbia University, New York, N. Y. **Mathematics.* Wallacetown, Ont, Jan. 15, 74. A.B, Toronto, 93; A.M, Columbia, 94, Ph.D, 96. Instr. *math,* Wesleyan, 96–01; tutor, *Columbia,* 01–05, *instr, 05–* In charge math, Summer Sch, Cincinnati, 00. M.A.A; Math. Soc. Tidal theory; theory of groups.—Search for simple groups.

Lingle, Dr. D(avid) J(udson), 486 E. 54th Place, Chicago, Ills. *Physiology.* Rock Island, Ills, June 6, 63. B.S, Chicago, 85; Ph.D, Hopkins, 92. Instr. science, Beloit, 86–87; *asst. prof.* biol, Tulane, 90–91; *physiol, Chicago, 92–* Physiol. Soc. Physiology of the heart.—Action of salt on the heart.

Linn, Prof. A(lvin) F(rank), 47 Park Place, Springfield, O. *Chemistry, Mineralogy, Geology.* Springfield, Sept. 23, 64. A.B, Wittenberg, 84, A.M, 87; fellow, Hopkins, 88, Ph.D, 92. *Prof.* nat. science, *Wittenberg,* 88–91, *chem. and miner, 92–* Lecture asst, Hopkins, F.A.A; Chem. Soc. Sulphon-phthalein and derivatives; method for determination of nitric acid; electrical deposition of lead; electrical separation of lead and manganese.—Phosphids of metals; constitution of hematoxylin.

Linton, Prof. Edwin, 400 E. Maiden St, Washington, Pa. *Zoology.* East Bethlehem, Pa, March 14, 55. A.B, Washington and Jefferson, 79; Yale, 81–82, Ph.D, 90. Teacher, pub. sch, 73–74; instr. math, *Washington and Jefferson,* 79–81, *prof. biol. and geol, 82–* Asst. scientific research, U. S. Fish Commission, Woods Hole, 82–87, 89, 98–00, 03–05; Yellowstone Park, 90; Beaufort, N. C, 01–02; Bermuda, 03. Silver medal, Paris Expos, 00. F.A.A; Soc. Nat. Entozoa of fishes.—Parasites of fishes.

Linville, Dr. Henry R(ichardson), 104 W. 70th St, New York, N. Y. *Biology.* St. Joseph, Mo, Aug. 12, 66. A.B, Kansas, 93; A.B, Harvard, 94, A.M, 95, Ph.D, 97. *Instr. biol, DeWitt Clinton High Sch, N. Y, 97–* M.A.A; Soc. Nat; Soc. Zool; fel. N. Y. Acad. Maturation and fertilization in pulmonate gasteropods; natural history of annelids.—Circulation in nereis.

Linville, Jacob H(ays), 1003 S. 46th St, Philadelphia, Pa. *Engineering.* Pequea, Pa, Sept. 23, 25. A.B, Union, 48; studied law, 50–51. Teacher, 49, 53–54; surveyor and asst. engineer, Pa. R. R, 54–55; asst. engineer, Westchester and Phila. R. R, 55–56, in charge, 56–57; asst. res. engineer, Maintenance of Way Dept, Middle Div, Pa. R. R, 57–02, engineer bridges and buildings, 62–65; pres, Keystone Bridge Co, 66–78; consulting engineer for various railroads and bridges, 78–88; *consulting engineer.* Civil Eng. Iron and steel bridges and buildings; electricity; telegraphs and lighting; engineering.

Lipman, Dr. Jacob G(oodale), N. J. State Agricultural Experiment Station, New Brunswick, N. J. *Soil chemistry and bacteriology.* Fried-

richstadt, Russia, Nov. 18, 74. B.S, Rutgers, 98; A.M, Cornell, 00, Sage fellow, 01, Ph.D, 03. Asst. chemist, *N. J. State Agr. Exp. Sta*, 98–99, *soil chemist and bacteriologist, 01–; instr. agr. chem, Rutgers, 02–* Farmers' Inst. lecturer, 01–05. Chem. Soc; N. J. Micros. Soc. Nitrification; denitrification; nitrogen fixation; chemistry of decay.—Physiology of nitrogen fixation; the measure of soil fertility from the nitrogen standpoint; availability of organic soil nitrogen.

Lippincott, J(oseph) B(arlow), 1108 Byrne Building, Los Angeles, Cal. *Hydraulic engineering.* Scranton, Pa, Oct. 10, 64. B.S, Kansas, 86. Hydrographer, *U. S. Geol. Surv*, 95–02, *supervising engineer, Reclamation Service, 02–* Lecturer, California; consulting engineer for various cities; civil service commissioner, Los Angeles, 04. Civil Eng; S. Cal. Eng. and Archit. Ass. Storage of water on Gila River, Arizona, and King's River, California; development and application of water in southern California; California hydrography.—Water supply of Santa Barbara County, California.

Littell, Prof. Frank B(owers), U. S. Naval Observatory, Washington, D. C. *Astronomy.* Scranton, Pa, Feb. 21, 69. Ph.B, Wesleyan, 91; A.M, Columbian, 94. Computer, U. S. Naval Observatory, 91–96; teacher math, High Sch, Scranton, Pa, 96–97; computer, U. S. Naval Observatory, 97–98, asst. astron, 98–01; *prof. math, U. S. N, 01–* Mem. U. S. Eclipse Exped, Ga, 00; Sumatra, 01. F.A.A; Astron. and Astrophys. Soc; Nat. Geog. Soc; Wash. Philos. Soc. Transit circle observations of sun, moon, planets and stars.—Vertical circle observations of declinations of standard stars.

Little, Arthur D(ehon), Upland Road, Brookline, Mass. **Chemistry.* Boston, Mass, Dec. 15, 63. Mass. Inst. Tech, 81–84. *Consulting chemist, Boston, 86–* State assayer, Mass, 86–94; lecturer wood pulp and paper making, Mass. Inst. Tech; collaborator, U. S. Div. Forestry. M.A.A; Chem. Soc. (councilor, pres, Northeastern Sect, 01); Electrochem. Soc; Soc. Chem. Indust. Sulphite process for wood fibre; electrochemical processes for decomposing brine for bleach and alkali; chrome tanning; cellulose sulphocarbonate; cellulose acetates; artificial silk; etc.

Little, Prof. C(harles) N(ewton), Moscow, Idaho. *Mathematics, Civil engineering.* Madura, India, May 19, 58. A.B, Nebraska, 79, A.M, 84; Ph.D, Yale, 85. Instr. math. and civil eng, Nebraska, 80–84, assoc. prof. civil eng, 85–90, *prof*, 90–93; math, Stanford, 93–01; *civil eng, Idaho, 01–* Math. Soc. Theory of knots; topology.

Little, E(dward) O(rton), 1319 N. Illinois St, Indianapolis, Ind. *Biology.* Cicero, Ind, Jan. 27, 78. B.S, De Pauw, 01; Woods Hole, 02; A.M, De Pauw, 04. *Instr.* zool. and physiol, *De Pauw*, 01–03, *embryol. and physiol, 04–; Central Col. Physicians and Surg, 04–* Ind. Acad. Nematocyst cells of Hydra; methods in histology.—Function of the sexual embrace in the common toad; the Pacinian corpuscles in the pancreas of the cat.

Littlehales, G(eorge) W(ashington), 2132 Le Roy Place, Washington, D. C. *Hydrographic engineering.* Near Pottsville, Pa, Oct. 14, 60. Grad, U. S. Naval Acad, 83; C.E, Columbian, 88. Asst, *U. S. Hydrog. Office*, 85–00, *hydrog. engineer, 00–* Assoc. ed, 'Int. Jour. Terrestrial Magnetism,' 96–00; consulting hydrographer, Dept. Terrestrial Magnetism, Carnegie Inst. F.A.A; Geog. Ass; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc. Nautical astronomy; hydrography; oceanography.—Modern nautical astronomy.

Livingston, Dr. Burton E(dward), U. S. Bureau of Soils, Washington, D. C. *Plant physiology.* Grand Rapids, Mich, Feb. 9, 75. B.S, Michigan, 98; Ph.D, Chicago, 01. Asst, Bot. Lab, Michigan, 95–98; instr. science, High Sch, Freeport, Ills, 98–99; asst. plant physiol, Chicago, 99–04, assoc, 04; *soil expert, U. S. Bur. Soils, 05–* Field work, Mich. Geol. Surv, 01; collaborator, U. S. Bur. Forestry, 02; Carnegie research asst, 04. Walker prize, Boston Soc. Nat. Hist, 03. M.A.A; Soc. Nat; assoc. Bot. Soc. Polymorphism of Algae; plant distribution.—Physiology of polymorphism in Algae; relation of soils to plant growth.

Lloyd, Prof. Alfred H(enry), 1735 Washtenaw Ave, Ann Arbor, Mich. *Philosophy.* Montclair, N. J, Jan. 3, 64. A.B, Harvard, 86, A.M, 89, Walker fellow (Göttingen, Berlin and Heidelberg), 89–91, Ph.D, 93. Instr. English and Latin, Phillips Acad, 86–87; asst. *philos*, Harvard, 88–89; instr, *Michigan*, 91–94, acting asst. prof, 94–95, acting prof, 95–96, asst. prof, 96–99, *junior prof, 99–* Philos. Ass; Psychol. Ass; Am. Hist. Ass. Metaphysics and epistemology; history of philosophy; political philosophy; philosophy of evolution.

Lloyd, Curtis Gates, Lloyd Library, Cincinnati, O. *Botany.* Florence, Ky, July 17, 59. Private schools. *Mem. firm, Lloyd Brothers, Cincinnati, O.* Cincinnati Nat. Hist. Soc; Cincinnati Cuvier Club. Mycology.

Lloyd, Prof. Francis E(rnest), Columbia University, New York, N. Y. **Botany.* Manchester, England, Oct. 4, 68. Lafayette, 87–89; A.B, Princeton, 91, A.M, 95; Munich, 98; Bonn, 01. Instr. *biol*, Williams, 91–92; prof, Pacific, 92–97; *adj. prof, Teachers Col, Columbia, 97–* Botanist, Lumholtz Mexican Exped, 90. F.A.A. (sec'y, G, 02–); Soc. Nat; Bot. Soc; Soc. Plant Morph. and Physiol; fel. N. Y. Acad; Torrey Bot. Club. Comparative embryology of Rubiaceae; morphology of the flower; transpiration and stomatal action in desert plants.—Plant embryology; anatomy; morphology; taxonomy of Lycopodiaceae.

Lloyd, Prof. John Uri, Norwood, Ohio. **Chemistry, Pharmacy, Materia medica.* West Bloomfield, N. Y, April 19, 49. Phar.M, Phila. Col. Pharmacy, 90; Ph.D, Ohio (Athens), 97. *Prof.* pharmacy, Cincinnati Col. Pharmacy, 83–87; *chem, Eclectic Med. Inst, 78–*, pres, 96–04. Pres,

Lloyd Library Bot. and Pharmacy; assoc. ed, 'Pharmaceut. Rev'; 'Eclectic Med. Jour'; 'Med. Gleaner.' Gold medals, Pharmaceut. Ass, 82, 92, 99; LL.D, Wilberforce. F.A.A; Chem. Soc; Pharmaceut. Ass. (pres, 87); Eclectic Med. Ass; Ohio Pharm. Ass; Ohio Eclectic Med. Ass. Plant chemistry and pharmacy; alkaloids; glucosids and proximate principles; precipitates in fluid extracts; phenomena of capillarity; phytochemistry as applied to medicine; superstition and folk-lore of northern Kentucky.—Phytochemistry; phenomena of capillarity; pharmacy of plant products; pharmaceutical phenomena.

Lloyd, Dr. M(orton) G(ithens), Bureau of Standards, Washington, D. C. *Physics.* Beverly, N. J, Sept. 10, 74. B.S, Pennsylvania, 96, Tyndale fellow, 96–99; Harvard, 97–98; Berlin, 98–99; Ph.D, Pennsylvania, 00. Instr. physics, Pennsylvania, 99–02; lab. asst, *Bur. Standards,* 02–04, *asst. physicist, 04–* Int. Elec. Cong, St. Louis, 04. M.A.A; Physical Soc; Franklin Inst. (v. pres, Physics Sect, 02); Electrochem. Soc; Nat. Geog. Soc; Wash. Philos. Soc. Effects of self-induction and capacity in alternating current circuits; thermomagnetic and galvanomagnetic effects in Bi and Te.—Effect upon induction meters of variations of voltage, frequency, power factor, temperature and wave form; ratios of transformers; phase relations in transformers.

Locke, Prof. James, East Aurora, N. Y. **Chemistry.* Buffalo, N. Y, Nov. 28, 69. A.B, Yale, 90; Ph.D, Heidelberg, 95, grad. student, 95–97. Instr. chem, Sheffield Sci. Sch, Yale, 97–02; asst. prof. inorg. chem, Mass. Inst. Tech, 02–03. Chem. Soc. Inorganic chemistry; gradations in properties of inorganic compounds with atomic weights of their elements.

Lockwood, Prof. E(dwin) H(oyt), 79 Division St, New Haven, Conn. *Mechanical engineering.* New Canaan, Conn, 66. Ph.B, Yale, 88, M.E, 92, Ph.D, 01. Designing engineer, 89–95; instr. *mech. eng, Sheffield Sci. Sch, Yale,* 92–01, *asst. prof, 01–* Mech. Eng; Conn. Acad. Mechanism; mechanical engineering.

Locy, Prof. W(illiam) A(lbert), 1823 Hinman Ave, Evanston, Ills. **Zoology, Embryology, Neurology.* Troy, Mich, Sept. 14, 57. B.S, Michigan, 81, M.S, 84; fellow, Harvard, 84–85; Berlin, 91; hon. fellow, Chicago, 94–95, Ph.D, 95; Naples Zool. Sta, 02–03. *Prof.* biol, Lake Forest, 87–89, animal morph, 89–95; *zool, Northwestern, 95–* Prof. physiol, Rush Med. Col, 91; trustee, Woods Hole. Soc. Nat; Soc. Zool; Ass. Anat. Embryology of Arachnida; structure and development of vertebrate head; pineal eye; accessory optic vesicles in embryo elasmobranchs and chicks; metameric segmentation of the neural axis; olfactory nerve; new cranial nerve in selachians; rise of embryology.—Embryology of cranial nerves of selachians; the olfactory nerve; primary segments of vertebrate brain.

Lodge, Prof. R(ichard) W(alley), 99 Colchester St, Brookline, Mass. *Mining, Metallurgy.* Boston, Mass, Jan. 14, 57. Mass. Inst. Tech, 79. Asst. mining and metal, Mass. Inst. Tech, 79–80; mining in the west, 80–82; asst. mining and metal, Mass. Inst. Tech, 82–83; head chemist, N. Chicago Rolling Mill Co, 83–85; chemist, Sloss Iron and Steel Co, Ala, 87; instr. *mining and metal, Mass. Inst. Tech,* 89–94, *asst. prof, 95–* Min. Eng; Forestry Ass. Assaying; cyaniding and chlorination of gold ores.

Loeb, Prof. Jacques, University of California, Berkeley, Cal. **Physiology.* Germany, April 7, 59. Berlin; Munich; M.D, Strasburg, 84. Asst. physiol, Würzburg, 86–88; Strasburg, 88–90; Naples Zool. Sta, 89–91; assoc. biol, Bryn Mawr, 91–92; asst. prof. physiol. and exp. biol, Chicago, 92–95, assoc. prof, 95–00, *prof. physiol,* 00–02; *California, 02–* Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; Philos. Soc. Brain physiology; animal tropisms; heteromorphosis; effects of salts; artificial parthenogenesis; heterogeneous hybridization.

Loeb, Prof. Leo, University of Pennsylvania, Philadelphia, Pa. *Pathology.* Mayen, Germany, Sept. 21, 69. Abiturient, Gymnasium, Heidelberg, 89; Heidelberg, Berlin, Zürich, Basel and Freiburg, 89–96; Staatsexamen, 96; M.D, Zürich, 97; research fellow, McGill, 03. Adj. prof. path, Illinois, 00–01; exp. pathologist, N. Y. State Path. Lab, Buffalo, 02; asst. demonstrator path, *Pennsylvania,* 03, *asst. prof. exp. path, 04–* F.A.A; Ass. Path. and Bact; Soc. Exp. Biol. and Med; Am. Med. Ass. Formation of the pigment of the skin; regeneration and transplantation of tissues; experimental conditions of growth of tissues; etiology of tumors; coagulation of blood; normal and pathological anatomy of the ovaries; cell-granula; agglutination of cells.

Loeb, Prof. Morris, 273 Madison Ave, New York, N. Y. **Chemistry.* Cincinnati, O, May 23, 63. A.B, Harvard, 83; Ph.D, Berlin, 87; Heidelberg, 87–88; Leipzig, 88. Asst. to Prof. Wolcott Gibbs, 88–89; docent *chem,* Clark, 89–91; *prof, N. Y. Univ, 91–* F.A.A. (sec'y, C, 94); Chem. Soc; Soc. Chem. Indust; Electrochem. Soc; fel. N. Y. Acad; Chem. Gesell. Inorganic and physical chemistry; derivatives of phosgene; electro-conductivity of solutions; reaction speeds.—Conductivity of complex salts.

Loevenhart, Dr. Arthur S(olomon), Johns Hopkins Medical School, Baltimore, Md. *Chemistry, Pharmacology.* Lexington, Ky, Dec. 29, 78. B.S, Ky. State, 98, M.S, 99; M.D, Hopkins, 03. Asst. physiol. chem, *Hopkins,* 03–04, *assoc. physiol. chem. and pharmacol, 04–* Physiol. Soc. Induced oxidations; catalysis; enzyme action.—Mechanism of enzyme action.

Loew, Prof. (Carl Benedikt) Oscar, Komaba, Tokyo, Japan. *Chemistry.* Rediwitz, Bavaria, April 2, 44. Munich and Leipzig, 63–66; Ph.D, Leipzig, 67. Asst, Col. City of N. Y, 67–71; mem. U. S. Exped. West of 100th Meridian (Wheeler), 73–76; adj, Lab. Veg. Physiol, Munich, 77–92, docent, 86–92; prof. agr. chem, Tokyo, 93–97; expert physiol. chem, U. S. Dept.

Agr, 98–00; *prof. agr. chem, Tokyo, 01–* Adviser to the Agr. Exp. Sta, Nishigahara, Japan. Japanese Order for Scientific Research. F.A.A; Halle Wissentsch. Akad; Tokyo Chem. and Agr. Soc. Physiological and agricultural chemistry; protein in living cells; enzymes; bacteria; the physiological rôle of mineral nutrients.—Manuring with lime and gypsum; catalytic phenomena; stimulation of plant growth.

Loewenstein, Dr. Louis C(entennial), Lehigh University, South Bethlehem, Pa. *Mechanical engineering.* Mora, N. Mex, June 17, 76. B.S, Pennsylvania, 97; Ph.D, Berlin, 99; Charlottenburg; E.E, Pennsylvania, 02. With Foos Gas Engine Co; N. Y. Shipbuilding Co; Wm. Cramp and Sons; Elec. Storage Battery Co; Vulcan Schiffbau Werke, Germany; *instr. mech. and marine eng, Lehigh, 03–* F.A.A. Flow of steam through orifices.

Logan, Prof. W(illiam) N(ewton), Agricultural College, Miss. *Geology, Mineralogy.* Barboursville, Ky, Nov. 4, 69. A.B, A.M, Kansas, 96; fellow, Chicago, 98–00, Ph.D, 00. Supt. schools, Pleasanton, Kas, 96–98; *prof. geol. and mining,* St. Lawrence, 00–03; *Miss. Agr. Col, 03–* Asst. ed, 'Jour. Geol'; asst, Kas. and N. Y. Surveys. Kas. Acad. Invertebrate paleontology and geology of Kansas upper Cretaceous; geology of Freeze-Out Hills, Wyoming; etc.—Clays and underground waters of Mississippi.

Lombard, Prof. Warren P(limpton), 805 Oxford Road, Ann Arbor, Mich. **Physiology.* Newton, Mass, May 29, 55. A.B, Harvard, 78, M.D, 81; Leipzig, 83–84; Harvard, Hopkins and Columbia, 85. Asst. *physiol,* Columbia, 86–88; asst. prof, Clark, 89–92; *prof, Michigan, 92–* Soc. Nat; Physiol. Soc; various med. societies. Reflexes; nerve-muscle; fatigue; circulation in man; action of two joint muscles; periodicity in fatigue; nature of knee-jerk.—Muscle tetanus; respiratory exchange.

Lommen, Prof. C(hristian) P(eter), Vermilion, S. Dak. *Zoology.* Spring Grove, Minn, 65. B.S, Minnesota, 91; Berlin, 96–97. *Prof. biol, South Dakota, 91–* Asst. zool, S. Dak. Geol. Surv, 01. The distribution of the main arteries of the mammalian kidney.—The nervous system of Arenicola cristata; the anatomy of Gadinia peruviana.

Long, Dr. J(ohn) H(arper), 7748 Sangamon St, Chicago, Ills. **Physiological chemistry.* Near Steubenville, O, Dec. 26, 56. B.S, Kansas, 77; Tübingen, Breslau and Würzburg, 77–80; Sc.D, Tübingen, 79. Instr. *chem,* Wesleyan, 80–81; *prof, Med. Sch, Northwestern, 81–* Chemist, Ills. State Board of Health, 85– F.A.A. (v. pres, 01); Chem. Soc. (pres, 03); Wash. Acad; Chem. Gesell. Optical rotation of organic compounds; chemistry of urine; sanitary water examinations.—Chemistry of urine and feces; self-purification of streams.

Longden, Prof. A(ladine) C(ummings), Knox College, Galesburg, Ills. **Physics.* Leesville, O, Feb. 19, 57. A.B, De Pauw, 81, A.M, 84; Ph.D, Columbia, 00. Instr. physics and chem, State Nor. Sch, Westfield, Mass, 88–97; *physics,* Wisconsin, 00–01; *prof, Knox, 01–* F.A.A; Soc. Belge d'Astron. Electrical resistance; carbon resistances; selenium interference rings.—Methods of comparing standard cells.

Loomis, E(ben) J(enks), Amherst, Mass. *Astronomy.* Oppenheim, N. Y, Nov. 11, 28. Lawrence Sci. Sch, Harvard, 51–53. Asst, 'Nautical Almanac' Office, 50–00. Mem. U. S. Eclipse Exped. to Africa, 89. Wash. Philos. Soc.

Loomis, Prof. E(lmer) H(oward), 302 Nassau St, Princeton, N. J. **Physics.* Vermilion, N. Y, May 24, 61. A.B, Colgate, 83; Ph.D, Strasburg, 93. Instr. physics and chem, Colgate Acad, 83–90; *physics, Princeton,* 94–97, asst. prof, 97–00, *prof, 00–* Physical Soc; Electrochem. Soc. Freezing-points of dilute aqueous solutions; densities and electrical conductivities of various electrolytes.—Freezing-points of some benzene derivatives.

Loomis, Dr. F(rederic) B(rewster), Amherst, Mass. *Biology.* Brooklyn, N. Y, Nov. 22, 73. A.B, Amherst, 96; Ph.D, Munich, 99. Instr. *biol, Amherst, 97, assoc. prof, 99–* M.A.A; Paleont. Soc. Cretaceous fishes; Jurassic stratigraphy.—Eocene fauna.

Loomis, Leverett Mills, California Academy of Sciences, San Francisco, Cal. *Ornithology.* Roseville, O, Oct. 13, 57. *Curator, Dept. Ornith, Cal. Acad. Sciences, 94–, director, Mus, 02–* Fel. Ornith. Union. Migration of birds; Tubinares.

Loper, S(amuel) Ward, 263 William St, Middletown, Conn. *Geology, Paleontology.* Guilford, Conn, July 3, 35. Private schools. Instr. geol, Trinity (Conn.), 90–91; asst. geologist, U. S. Geol. Surv, 91–94; *curator, Mus, Wesleyan, 94–* Field work, U. S. Geol. Surv, 96–03. Hon. A.M, Trinity (Conn.), 82. Wash. Biol. Soc. Fossiliferous shales of the Connecticut Valley; Cambrian and Silurian formations of the Rocky Mountains, Cape Breton and Newfoundland.

Lord, Prof. H(enry) C(urwen), Emerson McMillin Observatory, Columbus, O. **Astronomy.* Cincinnati, O, April 17, 66. Ohio State, 84–87; B.S, Wisconsin, 89. Student asst, Washburn Observatory, 87–89; with Thomson-Houston Elec. Co, 89–91; asst. math. and astron, *Ohio State,* 91–95, assoc. prof. *astron. and director, Observatory,* 95–00, *prof, 00–* With Alaska Boundary Surv. Astron. and Astrophys. Soc; fel. Royal Astron. Soc. Stellar motion in the line of sight.

Lord, Prof. Herbert G(ardiner), 618 W. 113th St, New York, N. Y. *Psychology, Ethics.* Boston, Mass, March 29, 49. A.B, Amherst, 71; Union Theol. Sem, 74–77. Tutor, Knox, 71–72; principal, High Sch, Holliston, Mass, 72; Presbyterian clergyman, 77–94; prof. philos, Teachers Col, Buffalo, 95–98; principal, Franklin Sch, Buffalo, 99–00; *prof. philos, Columbia, 00–* Hon. A.M, Amherst, 00. Philos. Ass; Psychol. Ass.

Lord, Prof. Nathaniel Wright, Ohio State University, Columbus, O. **Metallurgical chemistry.* Cincinnati, O, Dec. 26, 54. E.M, Columbia, 76. Asst. engineer, Cincinnati, 77; engineer and metallurgist, Monte Grande Mining Co, Nicaragua, 78; asst, Sch. of Mines, *Ohio State,* 79, asst. prof. mining and metal, 80–87, *prof,* 87–91, *metal. and miner. and director, Sch. of Mines, 96–* Chemist, Ohio Geol. Surv, 80–88; State Board of Agr, 81–99; State Board of Health, 96–98. F.A.A; Chem. Soc. Coal and other fuels.—Reexamination of the Ohio coals.

Lorenz, Dr. H(enry) W(illiam) F(rederick), 57 E. Columbia St, Springfield, O. *Chemistry.* Springfield, April 27, 71. A.B, Wittenberg, 93, A.M, 95; Ph.D, Berlin, 97. Asst. to Prof. Gabriel, Berlin, 97; instr. org. chem, Pennsylvania, 99–01. Chem. Soc; Chem. Gesell.

Lory, Prof. Cha(rle)s A(lfred), 614 Remington St, Ft. Collins, Colo. *Physics.* Sardis, O, Sept. 25, 72. B.Ped, Colo. State Nor. Sch, 98; B.S, Colorado, 01, M.S, 02. Principal, High Sch, Cripple Creek, Colo, 02, 03; acting prof. *physics,* Colorado, 04; *prof, Colo. State Agr. Col, 05–* Electric thermostat; differential telephone.—Direct reading magnetometer.

Loud, Dr. Frank H(erbert), 1203 N. Tejon St, Colorado Springs, Colo. **Astronomy, Mathematics.* Weymouth, Mass, Jan. 26, 52. A.B, Amherst, 73; Clark, 90–91; A.M, Harvard, 99; Ph.D, Haverford, 00. Instr. math, Amherst, 73–76; *prof. astron. and math, Colo. Col,* 77–Instr. geom, Smith, 79. F.A.A; Math. Soc; West. Ass. for Stellar Photog. (sec'y). Fragments of the theory of curves.

Louderback, Prof. Geo(rge) D(avis), Reno, Nev. *Geology.* San Francisco, Cal, April 6, 74. A.B, California, 96, Ph.D, 99. Asst. miner, California, 97–00; *prof.* geol. and physics, *Nevada,* 00–03, *geol, 03–* Field asst, U. S. Geol. Surv, summers, 97, 99, 00, 02; Carnegie research asst, 03– M.A.A; Geol. Soc; Cal. Acad. West coast geology.—Areal geology and structure of the Mt. Diablo quadrangle; origin of glaucophane schists; gypsum deposits of northwestern Nevada; basin range structure of Humboldt region; Mesozoic stratigraphy of southwestern Oregon.

Lough, Prof. James E(dwin), 607 W. 115th St, New York, N. Y. *Psychology.* Eaton, O, June 24, 71. A.B, Miami, 91; A.B, Harvard, 94, A.M, 95, Ph.D, 98. Teacher, pub. schools, Ohio, 91–93; instr. psychol, Radcliffe, 94–98, Harvard, 96–98; Wellesley, 97–98; *prof,* State Nor. Sch, Oshkosh, Wis, 98–01; *physiological and exp. psychol, Sch. of Pedag, N. Y. Univ, 01–* F.A.A; Psychol. Ass; Philos. Ass; fel. N. Y. Acad. Physiological basis of intensity of sensations; development of memory in school children.—Mental development of school children.

Loughridge, Prof. R(obert) H(ills), University of California, Berkeley, Cal. *Agriculture, Agricultural chemistry, Agricultural geology.* Creek Nation, Ind. T, Oct. 9, 43. B.S, Mississippi, 71, Ph.D, 76. Asst. prof. chem, Mississippi, 72–74; asst. state geologist, Miss, 72–74; Ga, 74–78; Ky, 82–85; prof. agr. chem, South Carolina, 85–90; *asst. prof. agr. chem. and agr. geol, California, 91–* Special agent on cotton production, Tenth Census. F.A.A; Geol. Soc; Soc. Prom. Agr. Sci; Forestry Ass; Am. Geog. Soc; Cal. Acad. Chemistry and physics of soils; alkali and alkali soils.

Love, Prof. J(ames) L(ee), 27 Walker St, Cambridge, Mass. *Mathematics.* Gastonia, N. C, Dec. 30, 60. Ph.B, North Carolina, 84; Hopkins, 84–85; A.M, Harvard, 90. Asst. prof. *math,* North Carolina, 85–89; instr, *Harvard,* 90–01, *asst. prof, 01–* Sec'y of Faculty, North Carolina, 87–89; sec'y, Lawrence Sci. Sch, and clerk, Summer Sch, Harvard, 00– M.A.A; Math. Soc; Boston Math. and Physics Club. Mathematics.

Lovejoy, Prof. A(rthur) O(ncken), Washington University, St. Louis, Mo. *Philosophy.* Berlin, Germany, Oct. 10, 73. A.B, California, 95; A.M, Harvard, 97; Paris, 98–99. Asst. prof. *philos,* Stanford, 99–00, assoc. prof, 00–01; *prof, Washington (St. Louis), 01–* Philos. Ass; West. Philos. Ass. (sec'y, 04–06). Eighteenth century philosophy; history of theory of evolution; religions of primitive peoples; pre-Lamarckian evolutionists; relation of Kant's philosophy to that of the school of Wolff.

Lovejoy, D. Ross, Niagara Falls, N. Y. *Electrical engineering, Electrochemistry.* St. Louis, Mo, May 12, 71. B.S, Cooper Union, 95, E.E, 99. Asst, Testing Dept, Crocker Wheeler Elec. Co, 90–95; asst. elec. eng, Columbia, 95–99; *supt, Atmospheric Products Co, 99–* Elec. Eng; Electrochem. Soc. Fixation of atmospheric nitrogen.—Synthetic gaseous chemistry.

Loveland, George A(ndrew), 1130 S. 20th St, Lincoln, Nebr. *Meteorology.* Norwich, Vt, Oct. 9, 63. B.S, N. H. Col. Agr. and Mech. Arts, 82; LL.B, N. Y. Univ, 86. Observer, *U. S. Weather Bur,* 82–88, *sect. director, Climate and Crop Service in Nebr, 88–* Instr. gen. and agr. meteorol, Nebraska, 00– Nat. Geog. Soc; Nebr. Acad. Humidity in living rooms; cold waves.—Distribution of water vapor in air.

Lovett, Prof. E(dgar) O(dell), Princeton, N. J. **Mathematics, Celestial mechanics.* Shreve, O, April 14, 71. A.B, Bethany (W. Va.), 90, B.S, A.M, 92; A.M, Ph.D, Virginia, 95; Ph.D, Leipzig, 96; fellow by courtesy, Hopkins, 97. Instr. math, West Ky. Col, 90–92; astron, Virginia, 92–95; lecturer, Chicago, 97; instr. math, *Princeton,* 97–98, asst. prof, 98–00, *prof,* 00–05, *astron, 05–* F.A.A. (mem. Council); Math. Soc. (assoc. ed, 'Bul,' 97–02, mem. Council); Astron. and Astrophys. Soc; Philos. Soc; Math. Societies of Edinburgh, France and Germany. The theories of Sophus Lie and celestial mechanics.—Applications of the theory of periodic orbits; integrals of the problem of n bodies.

Low, Albert H, Box 1537, Denver, Colo. *Chemistry.* Chelsea, Mass, June 27, 55. B.S, Mass. Inst. Tech, 76. Asst, Quant. Lab, Mass. Inst. Tech; assayer and chemist, Cal. Smelter,

Leadville; American Smelter, Leadville; Boyd's Smelter, Boulder, Colo; chief assayer, U. S. Mint, Denver; assayer and chemist, Boston and Colo. Smelting Works, Argo, Colo; *mem. firm of Von Schulz and Low, Denver.* Chem. Soc; Soc. Chem. Indust. Metallurgical chemistry.—Improvements in analytical methods.

Low, Dr. H(arry) C(hamberlain), 432 Marlborough St, Boston, Mass. *Medicine.* Salem, Mass, Aug. 5, 70. A.B, Harvard, 93, M.D, 97. First asst. path, Boston City Hosp, 00–01; asst. physician, Mass. Gen. Hosp, 01–02; *pathologist, Boston Children's Hosp, 03–* Sarcomatous tumors; thyroid tumors; bacteriology of appendicitis.—Grave's disease; the paratyphoid bacilli; etc.

Lowell, Percival, 53 State St, Boston, Mass. **Mathematics, Orientalism, Astronomy.* Boston, March 13, 55. A.B, Harvard, 76. *Director, Lowell Observatory, Flagstaff, Ariz, 94–* Non-res. prof. astron, Mass. Inst. Tech, 02. Janssen medal, Soc. astron. de France, 04. F.A.A; Astron. and Astrophys. Soc; fel. Am. Acad; Philos. Soc; hon. mem. Soc. Astron. de Mex; Royal Asiatic Soc; Astron. Gesell; Soc. astron. de France; Soc. Belge d'Astron; Asiatic Soc. of Japan. Far eastern psychology; planet Mars.—Planets, especially Mars.

Lucas, F(rederic) A(ugustus), 827 President St, Brooklyn, N. Y. **Osteology.* Plymouth, Mass, March 25, 52. High Sch. Curator, Div. Comp. Anat, U. S. Nat. Mus, 93–04, acting curator vert. fossils, 01–04; *curator-in-chief, Mus, Brooklyn Inst, 04–* Soc. Nat; fel. Ornith. Union; N. Y. Acad; Wash. Acad; Wash. Biol. Soc; Gt. Britain Mus. Ass. Osteology and divisions of birds.—Structure and species of stegosaurs.

Lucke, Henry J(ohn), 2217 N. St, N. W, Washington, D. C. *Electrochemistry.* Baltimore, Md, July 10, 76. A.B, Hopkins, 98; A.M, Lafayette, 01. Instr. physics and math, Lafayette, 00–02; *asst. examiner electrochem, U. S. Patent Office, 02–* Instr. applied physics, Columbian. Electrochem. Soc. Electrochemistry.—Synthetic sparking in gases.

Luckey, Prof. G(eorge) W(ashington) A(ndrew), 1439 R St, Lincoln, Nebr. *Psychology, Education.* Decatur, Ind, Feb. 11, 55. A.B, Stanford, 94; fellow, Clark, 94–95; Ph.D, Columbia, 00. Supt. schools, Adams Co, Ind, 78–82; city supt, Decatur, Ind, 82–87; Ontario, Cal, 88–92; *prof. educ, Nebraska, 95–* Ed, Child Study Dept, 'Northwestern Monthly,' 96–99. Psychol. Ass; Nat. Educ. Ass. (sec'y, Child Study Dept, 98, pres, 02); Soc. Sci. Educ; Ass. Adv. Physical Educ; West. Philos. Ass; Nebr. Acad; Cal. State Teachers' Ass. (v. pres, 91); Nebr. State Ass. Child Study (chairman, Exec. Committee, 96–05). Psychology and education; professional training of secondary teachers in the United States.

Ludlow, J(acob) L(ott), 434 Summit St, Winston-Salem, N. C. *Engineering, Sanitation.* Spring Lake, N. J, Dec. 20, 62. C.E, Lafayette, 85, M.S, 88. *Practising munic, sanitary and hydraul. engineer, 88–* Sanitary expert; mem. N. C. State Board of Health. F.A.A; Civil Eng; Pub. Health Ass; Am. Water Works Ass; Eng. Ass. of the South; New Eng. Water Works Ass; London Soc. Arts. Municipal engineering; causes and remedy of unhealthy conditions; sewerage of cities and towns; public water supplies.—Means of promoting and preserving public health; sanitation in cities, towns, schools and homes.

Ludy, Prof. L(lewellyn) V, 229 University St, Lafayette, Ind. *Mechanics.* Mill Grove, Ind, Jan. 26, 75. B.S, Purdue, 98, M.E, 00. Instr, Eng. Lab, *Purdue,* 99–02, applied mech, 02–03, *asst. prof. mech. eng, 03–* With Carnegie Steel Co, Homestead, Pa; expert, Bur. of Forestry. Eng. Educ. Physical characteristics of cast-iron and cement.—Wind pressures on certain geometrical solids; strength of glued joints.

Lukens, Dr. Herman T(yson), California, Pa. *Pedagogy.* Philadelphia, Pa, Jan. 29, 65. A.B, Pennsylvania, 85, A.M, 88; Berlin, Halle, Leipzig, Paris and Jena, 88–91; Ph.D, Jena, 91. Teacher biol, N. W. Div. High Sch, Chicago, 91–94; fellow and docent, Clark, 94–96, docent pedag, 96–98; *head training teacher, State Nor. Sch, California, Pa, 98–* Lecturer, Summer Sch, Clark, and Barnard Club, Providence, R. I, 95; educ, Bryn Mawr, 96–97. Nat. Educ. Ass. (Committee of Ten, Art Dept, 99–02); Soc. Sci. Educ. Children's drawings; early language development.—Course of study.

Lull, Prof. Richard S(wann), Amherst, Mass. *Zoology, Paleontology.* Annapolis, Md, Nov. 6, 67. B.S, Rutgers, 93, M.S, 96; Ph.D, Columbia, 03. Asst. prof. *zool, Mass. Agr. Col,* 94–02, *assoc. prof, 02–* With Div. Entom, U. S. Dept. Agr, 93; mem. field parties, Am. Mus. Nat. Hist, 99–02. M.A.A; Paleont. Soc; life mem. Am. Mus. Nat. Hist. Vertebrate paleontology, especially fossil footprints (ichnology); the Ceratopsia; the Iguanodontia.

Lumholtz, Carl (Sophus), Norwegian Consulate, New York, N. Y. *Ethnology.* Near Lillehammer, Norway, April 23, 51. A.M, Christiania, 76. Zool. collector for Univ. of Christiania in Australia, 80–84; chief. anthrop. exped. to explore northwestern Mex. for Am. Mus. Nat. Hist. and Am. Geog. Soc, 90–91; for Am. Mus. Nat. Hist, 92–93, 94–97, 98, asst, Dept. Anthrop, 97–99. Knight of St. Olaf and of Vasa; Chevalier Légion d'honneur; Officier d'Acad. Anthrop. Ass; fel. Ethnol. Soc; Nat. Geog. Soc; cor. mem. Am. Geog. Soc; assoc. Soc. d'Anthrop. de Paris; cor. mem. Paris Soc. Americanists; cor. mem. Swedish Soc. Anthrop. and Geog; cor. mem. Royal Danish Geog. Soc; Christiania Sci. Soc. Symbolism; decorative art; religions.

Lummis, Dr. Cha(rle)s F(letcher), 200 Ave. 43, Los Angeles, Cal. *Spanish-American history, Ethnology, Linguistics.* Lynn, Mass, March 1, 59. Harvard, 81. *Ed, 'Out West,' 93–* Chairman, Govt. Commission to Warner's Ranch and other mission Indians; asst. to Ad. F. Bandelier,

Villard Exped. to Peru and Bolivia, 92–93; librarian, Los Angeles Pub. Library, 05– Litt.D, Santa Clara. Folk-lore Soc. (v. pres, 00); Am. Geog. Soc; Sequoya League (founder and chairman, Exec. Committee); Landmarks Club (founder and pres.); Southwest Soc. Archeol. Inst. of Am. (founder and sec'y); hon. mem. Davenport Acad. General Spanish-American history and ethnology; Tigua and Spanish-American linguistics; New Mexico and Arizona up to 1870; California, 1769 to date. —Social and economic development of Mexico since 1790 and of California since 1845.

Lundin, Carl A(xel) R(obert), 613 Putnam Ave, Cambridgeport, Mass. *Astronomical instruments.* Venersborg, Sweden, Jan. 13, 51. High Sch, Sweden. *With Alvan Clark and Sons, 74–* Hon. A.M, Amherst, 05. M.A.A; Astron. and Astrophys. Soc. Making of astronomical instruments.

Lunn, Dr. A(rthur) C(onstant), University of Chicago, Chicago, Ills. *Mathematics.* Racine, Wis, Feb. 19, 77. A.B, Lawrence, 98; fellow, Chicago, 98–01, A.M, 00, Ph.D, 04. Instr. math. and astron, Wesleyan, 01–02; assoc. *applied math, Chicago,* 02–03, *instr, 03–* Astron. and Astrophys. Soc; Math. Soc. Differential equations of dynamics.

Luquer, Prof. Lea McIlvaine, 321 W. 80th St, New York, N. Y. *Mineralogy.* Brooklyn, N .Y, Sept. 4, 64. C.E, Columbia, 87, Ph.D, 94. Tutor and later adj. prof. miner, Columbia, 87–04. Sec'y, Auxiliary Committee of Teachers Col, Columbia, 94–95. F.A.A; fel. N. Y. Acad. The relative effects of frost and the sulphate soda tests on building stones; simplified scheme for the optical recognition of minerals in thin rock sections; area and nature of the 'augen-gneiss,' etc, at Bedford, N. Y.

Lusk, Prof. Graham, 11 E. 74th St, New York, N. Y. **Physiology.* Bridgeport, Conn, Feb. 15, 66. Ph.B, Columbia, 87; Ph.D, Munich, 91. Instr, later asst. prof. and *prof. physiol,* Med. Sch, Yale, 91–98; *Univ. and Bellevue Hosp. Med. Col, 98–* Hon. A.M, Yale, 97. Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; fel. Edinburgh Royal Soc. Carbohydrates in the body; diabetes; phlorhizin diabetes; hippuric acid; metabolism in diabetes; dietetic value of skim-milk.

Luther, Pres. Flavel S(weeten), Jr, 115 Vernon St, Hartford, Conn. *Mathematics, Mechanics.* Brooklyn, Conn, March 26, 50. A.B, Trinity (Conn.), 70, A.M, 73, Ph.D, 96. Teacher in various schools; prof. math, Racine, 76–81; Kenyon, 82–83; *Trinity (Conn.),* 83–04, *pres, 04–* Consulting engineer, Pope Mfg. Co, 96–99. LL.D, Trinity (Conn.), 04. Mech. Eng. Strength of materials; coefficient of expansion of various steels at high temperatures.

Lyman, B(enjamin) S(mith), 708 Locust St, Philadelphia, Pa. *Geology, Surveying, Mining engineering.* Northampton, Mass, Dec. 11, 35. A.B, Harvard, 55; École des Mines, Paris, 59–61; Freiberg, 61–62. Asst. geologist, Ia. Geol. Surv, 58; mining engineer, Pub. Works Dept, India, 70–71; chief geologist and mining engineer, Govt. Geol. Surv, Japan, 73–75; Govt. Surv. of Oil Lands of Japan, 76–77; Govt. Geol. Surv. of Japan, 78–79; asst. geologist, Pa. Geol. Surv, 87–95. F.A.A; Min. Eng; Philos. Soc; Nat. Geog. Soc; Folk-lore Soc; Acad. Polit. and Social Sci; Oriental Soc; Pa. Hist. Soc; Franklin Inst; Phila. Acad; Phila. Eng. Club; Phila. Oriental Club; Phila. Geog. Soc; Phila. Numis. and Antiq. Soc; Geol. Gesell; Gesell. für Natur- und Völkerkunde Ostasiens; Soc. géol. de France; Bengal and Japan Asiatic Societies. Geological surveys and surveying instruments.

Lyman, Prof. E(lmer) A(delbert), 126 N. Washington St, Ypsilanti, Mich. *Mathematics, Astronomy.* Manchester, Vt, July 27, 61. A.B, Michigan, 86, grad. student, 92–95. Principal, High Sch, Paola, Kas. 86–87; Troy, O, 87–89; instr. *math,* Michigan, 90–98; *prof, Mich. State Nor. Col, 98–,* principal, 99–02. M.A.A; Math. Soc.

Lyman, Prof. Geo(rge) R(ichard), Hanover, N. H. *Botany.* Lee Center, Ills, Dec. 1, 71. A.B, Beloit, 94; A.B, Harvard, 97, A.M, 99. Supt. city schools, Amboy, Ills, 94–96; asst. crypt. bot, Harvard, 98–01, instr, Radcliffe, 00; *bot, Dartmouth,* 01–04, *asst. prof, 04–* Life histories of fungi.—Life histories of certain Basidiomycetes.

Lyman, Dr. Theodore, Brookline, Mass. **Physics.* Boston, Mass, Nov. 23, 74. A.B, Harvard, 97, A.M, 99, Ph.D, 00. Asst. *physics, Harvard,* 97–98, 99–01, *instr, 02–* Physical Soc; fel. Am. Acad. Phenomena connected with diffraction gratings.—Wave-lengths of extreme ultra-violet light discovered by Schumann.

Lyon, Prof. E(lias) P(otter), St. Louis University, St. Louis, Mo. **Physiology.* Cambria, Mich, Oct. 20, 67. B.S, Hillsdale, 91, A.B, 92; Ph.D, Chicago, 97. Instr. biol, Bradley Inst, Peoria, Ills, 97–00; asst. prof. *physiol,* Rush Med. Col, 00–04; Chicago, 01–04; *prof, St. Louis, 04–* Instr. Woods Hole, 97–; dean in med. work, Chicago, 01–04. Soc. Nat; Physiol. Soc. Compensatory motions; equilibrium in animals; effect of lack of oxygen; effects of K N C and lack of oxygen.—The tropisms.

Lyon, Dr. Florence (May), Foster Hall, University of Chicago, Chicago, Ills. *Botany.* Gilbertsville, N. Y, March 6, 60. Michigan, 79–82, 86–87; B.S, Chicago, 97, fellow, 98–99, Ph.D, 01. Principal, High Sch, Owosso, Mich, 82–83; teacher science, High Sch, Detroit, 83–86, 87–96; *instr. bot,* Smith, 00–01; *Chicago, 01–* Plant morphology; relation of selaginellas to seed plants.

Lyon, Dr. Harold L(loyd), University of Minnesota, Minneapolis, Minn. *Botany.* Hastings, Minn, Oct. 14, 79. B.S, Minnesota, 00, M.S, 01, Ph.D, 03. Instr. *bot, Minnesota,* 00–05, *asst. prof, 05–* Bot. Cent. States. Plant cytology and embryology; algology.

Lyon, Dr. Irving Phillips, 531 Franklin St, Buffalo, N. Y. *Medicine.* Hartford, Conn, Jan. 12, 70. A.B, Yale, 93; M.D, Hopkins, 97. *Instr. clin. med, Buffalo, 99–; pathologist, Charity Eye, Ear and Throat Hosp. of Erie Co, 00–* Ass. Path. and Bact. Medicine.

Lyon, Prof. T(homas) Lyttleton, University of Nebraska, Lincoln, Nebr. *Agriculture.* Pittsburg, Pa, Feb. 17, 69. B.S.A, Cornell, 91; Göttingen, 94; Ph.D, Cornell, 04. Instr. chem, Nebraska, 91–93; chemist, Nebr. Exp. Sta, 95; *prof. agr, Nebraska, 95–; assoc. director, Nebr. Exp. Sta, 99–* In charge dairy test, Trans-Miss. Expos. Soc. Prom. Agr. Sci; Chem. Soc; Cnem. Gesell. The effect of environment on cultivated plants; changes in the chemical composition of wheat induced by new environment; artificial aeration required by soils in the semi-arid regions; the sugar-beet; forage crops; increasing the nitrogen and gluten content of winter wheat.

Lyons, Dr. A(lbert) B(rown), 72 Brainard St, Detroit, Mich. *Chemistry, Botany.* Waimea, Hawaii, April 1, 41. A.B, Williams, 65; M.D, Michigan, 68. Prof. chem, Detroit Med. Col, 68–80; consulting chemist, Parke Davis and Co, 81–87; prof. chem, Oahu Col, 88–95; *consulting chemist, Nelson Baker and Co, 97–* Ed, 'Pharmaceut. Era,' 87–88; govt. chemist, Hawaii, 88–95; mem. Revision Committee, U. S. Pharmacopœia, 90– M.A.A; Chem. Soc; Am. Med. Ass; Pharmaceut. Ass; fel. London Chem. Soc. Methods of valuation of drugs and medicinal preparations; decomposition by weathering of volcanic rocks.—Certain reactions of morphin with reference to their use as qualitative tests.

Lyons, Prof. Rob(er)t E(dward), 630 E. Third St, Bloomington, Ind. *Chemistry, Bacteriology.* Bloomfield, Ind, Oct. 24, 69. A.B, Indiana, 89, A.M, 90; Ph.D, Heidelberg, 94; Fresenius's Lab, Wiesbaden, Munich, Berlin and Joergensen's Inst, Copenhagen, 92–95. Instr. chem, Indiana, 89–91, assoc. prof, 91–92; asst. to Prof. Krafft, Heidelberg, 95; *prof. chem, Indiana, 95–* Director, Biol. Sta, Indiana, 00; prof. chem, Col. Physicians and Surg, Indianapolis, 03–04; chem. and toxicol, Med. Col. of Ind, 04– M.A.A; Chem. Soc; Public Health Ass; fel. Ind. Acad; Chem. Gesell. Organic compounds of sulphur, selenium and tellurium; germicides and disinfectants; pathogenic yeasts.—Organic selenhydrids; condensation of ketones with chloroform and iodoform; method for quantitative estimate of selenium in organic compounds; mercury with organic radicals; substituted salols.

Lytle, Ernest B(arnes), 924 W. Illinois St, Urbana, Ills. *Mathematics.* Decatur, Ills, March 23, 75. B.S, Illinois, 01, A.M, 04. Teacher, Ills. pub. schools, 95–97; instr. math, Acad, Illinois, 01–03, acting principal, 03–04; *instr. math, Illinois, 04–* Math. Soc. Double limits; conditions under which functions may be represented by infinite series.

M

Mabery, Prof. C(harles) F(rederic), Case School of Applied Science, Cleveland, O. **Chemistry.* Gorham, Me, Jan. 13, 50. B.S, Harvard, 76, Sc.D, 81. *Prof. chem, Case, 83–* F.A.A. (sec'y, C, 87); Chem. Soc; Philos. Soc; Am. Acad. Petroleum; aluminum; organic subjects.—Petroleum.

McAdie, Prof. Alexander (George), U. S. Weather Bureau, Mills Building, San Francisco, Cal. *Meteorology, Climatology, Physics.* New York, N. Y, Aug. 4, 63. Col. City of N. Y, 76–81; A.M, Harvard, 85; fellow, Clark, 90–91. Forecast official, *U. S. Weather Bur,* 99–03, *prof. meteorol, 03–* Hon. lecturer meteorol, California. Hodgkin medal, Smithsonian Inst, 95. Wash. Acad. Atmospheric electricity.

McAllister, Dr. Cloyd N(orth), Yale Station, New Haven, Conn. *Psychology.* St. Joseph, Mo, Dec. 18, 70. A.B, Yale, 92, Ph.D, 00. Instr. math, High Sch, St. Joseph, Mo, 92–97; asst, Psychol. Lab, *Yale,* 00–03, *instr. psychol, 03–* M.A.A; Psychol. Ass; Philos. Ass. Movements used in writing; eye movements by photography.

Macallum, Prof. A(rchibald) B(yron), 59 St. George St, Toronto, Can. *Physiology, Physiological chemistry.* Belmont, Ont, 58. A.B, Toronto, 80, fellow, 85–87; Ph.D, Hopkins, 88; M.B, Toronto, 89, A.M, 00. Lecturer *physiol, Toronto,* 87–91, *prof, 91–* Physiol. Soc; Soc. Exp. Biol. and Med; fel. Can. Royal Soc; Can. Inst. (pres, 95–98); British Ass. (local sec'y, 97); British Physiol. Soc. The chemistry of animal and vegetable cells; localization of phosphorus, iron, potassium and calcium in the cell; the salts of Medusae in relation to those of sea water.—The distribution of chlorids in the cell and in the tissues; the oxydases in the cell.

MacBride, Prof. E(rnest) W(illiam), 28 Durocher St, Montreal, Can. *Zoology.* Belfast, Ireland, Dec. 12, 66. Queen's (Ire.), 84; A.M, Cambridge, 88; fellow, St. John's Col, Cambridge, 93; Sc.D, London, 99. Demonstrator animal morph, Cambridge, 92; *prof. zool, McGill, 97–* Walsingham medal, 93. Soc. Nat; Soc. Zool; fel. Royal Soc; Cambridge Philos. Soc. Development of Echinodermata and Vertebrata.

Macbride, Prof. Thomas H(uston), Iowa City, Ia. **Botany, Geology.* Rogersville, Tenn, July 31, 48. A.B, Monmouth, 69, A.M, 72; Bonn, 91. Prof. math. and modern languages, Lenox, 70–78; asst. prof. nat. sciences, *Iowa,* 78–87, *prof. bot, 87–* Hon. Ph.D, Monmouth. F.A.A. (v. pres, 04); Soc. Nat; Geol. Soc; assoc. Bot. Soc; Mycol. Soc. Microscopical botany; fungi; diatoms; Pleistocene geology.—Diatomaceae; Myxomycetes.

McCallie, Capt. J(ames) P(ark), Culver, Ind. *Astronomy, Mathematics.* James Co, Tenn, Aug. 9, 79. A.B, A.M, Virginia, 00, Ph.D, 03. Asst. astron, Virginia, 01–02; *instr. math, Culver Mil. Acad, 03–* Instr, Tenn. State Inst, 03. Perturbations of Jupiter and Saturn.

MacCallum, Dr. J(ohn) B(ruce), University of California, Berkeley, Cal. **Physiology.* Dunnville, Ont, June 8, 76. A.B, Toronto, 96; M.D, Hopkins, 00. Asst. anat, Hopkins, 00–02; *physiol, California,* 03–04, *asst. prof, 05–* Ass. Anat; Anat. Gesell. Histology and histogenesis of muscle; development and pathology of the heart; Wolffian body; development and physiology of the intestines; saline purgatives; secretions of intestines and kidneys.

MacCallum, Dr. W(illiam) G(eorge), Johns Hopkins Hospital, Baltimore, Md. **Pathology.* Dunnville, Ont, April 18, 74. A.B, Toronto, 94; M.D, Hopkins, 97. Res. house officer, Hopkins Hosp, 97–98, asst. res. pathologist, 99–00; asst. *path, Hopkins,* 99–00, *assoc. prof, 02–; res. pathologist, Hopkins Hosp, 01–* Am. Physicians; Ass. Path. and Bact; Ass. Anat; Soc. Exp. Biol. and Med; Md. Med. and Chirurg. Faculty; Path. Gesell. Trematode parasites; malaria; pathological anatomy and bacteriology.—Anatomy of lymphatics; physiology of the thyroid; pathological physiology of the circulatory system.

McCarthy, Dr. J(ohn) G(eorge), 61 Drummond St, Montreal, Can. *Anatomy.* Sorel, Que, March 23, 62. Ottawa, 82; M.D, C.M, McGill, 88. Asst. demonstrator *anat, McGill,* 92–95, demonstrator, 95–98, senior demonstrator, 98–00, lecturer, 00–03, *asst. prof, 03–* Ass. Anat; Montreal Medico-Chirurg. Soc. The brain.

McCaskey, H(iram) D(ryer), Box 449, Manila, P. I. *Geology, Mining.* Fort Totten, N. Dak, April 10, 71. B.S, Lehigh, 93. Chemist and assayer, B. and M. Con. C. and S. Mining Co, Great Falls, Mont, 93–95; instr. and head master, St. Thomas Hall, Miss, 95–98; instr. math, St. Matthew's Sch, Cal, 98–99; mining engineer and geologist, *Mining Bur, Manila,* 00–03, *chief, 03–* F.A.A; Geol. Soc; Min. Eng; Soc. Testing Materials. Economic and general geology of the Philippines.—Philippine economic geology, mining and metallurgy.

McCaskill, Prof. V(irgil) E(verett), 1612 Belknap St, Superior, Wis. *Zoology.* Knox Co, Ills, May 3, 66. A.B, Ohio Wesleyan, 93, A.M, 94; Ph.D, Chicago, 01. Instr. math, Ohio Wesleyan, 93–94; prof. biol, State Nor. Sch, Stevens Point, Wis, 96–02; *prof. biol. and institute conductor, State Nor. Sch, Superior, Wis, 02–* Wis. Acad. The nervous system of annelids; metamerism of leeches.—The anatomy of the nervous system of various Wisconsin leeches, with special reference to metameric features.

McCaustland, Prof. E(lmer) J(ames), 302 Mitchell St, Ithaca, N. Y. *Civil and mining engineering.* Quincy, Wis, Jan. 9, 64. B.C.E, Cornell (Ia.), 92; M.C.E, Cornell, 97. Practising civil and mining engineer, Cal, Ore. and Mont, 88–96; instr. civil eng, Cornell, 97–00; principal asst. engineer in construction of clearing yards, Chicago, 00–01; prof. civil eng, Sch. Mines and Metal, Missouri, 01–02; *asst. prof. mining and surv, Cornell, 02–* F.A.A; Civil Eng; Min. Eng; Eng. Educ. Properties of reinforced concrete; elastic properties of specially treated steel.—Effect of low temperature on overstressed steel; tensile strength of reinforced concrete; effect of drifting punched and drilled holes in soft steel plates.

McCay, Prof. L(eRoy) W(iley), Princeton, N. J. **Chemistry.* Rome, Ga, Aug. 9, 57. A.B, Princeton, 78; Freiberg, 78–81; A.M, Princeton, 81; Heidelberg, 82; Sc.D, Princeton, 83. Asst. anal. chem, *Princeton,* 83–86, instr, 86–89, asst. prof, 89–92, *prof. inorg. chem, 92–* Chem. Soc; Min. Eng; Philos. Soc. Methods for determining arsenic; the sulpho and sulphoxy compounds of arsenic; the salts of trisulphoxyarsenic acid.—The action of hydrogen sulphid on alkaline solutions of zinc salts.

McClellan, Dr. W(illia)m, University of Pennsylvania, Philadelphia, Pa. *Physics.* Philadelphia, Nov. 5, 72. B.S, Pennsylvania, 00, Ph.D. Asst. eng, Swarthmore, 90–91; *instr.* math, Boys' High Sch, Reading, Pa, 91–98; *physics, Pennsylvania, 00–* Physical Soc; Elec. Eng; Mech. Eng; Franklin Inst; Pa. Forestry Ass.

MacClement, Prof. W(illia)m T(homas), 5312 Indiana Ave, Chicago, Ills. *Chemical engineering.* Kingston, Ont, 61. A.B, Queen's (Can.), 88, A.M, 89. Instr. chem, bot. and physics, Ingersoll Col. Inst, 91–92; London Col. Inst, 92–96; asst. prof. chem, *Armour Inst,* 96–98, *prof,* 98–01, *chem. eng, 01–* Chem. Soc. Composition of coals; deposition of boiler scale; gas producers.

McClenahan, Prof. Howard, Princeton, N. J. *Physics, Electrical engineering.* Port Deposit, Md, Oct. 19, 72. E.E, Princeton, 95, M.S, 97. Instr. physics, *Princeton,* 97–99, instr. physics and asst. elec. eng, 99–02, *asst. prof. physics, 02–* Physical Soc. Diffraction of electric waves.

McClintock, Dr. Cha(rle)s T(homas), Box 3, Detroit, Mich. *Bacteriology.* Bourbon Co, Ky, March 16, 60. A.B, Ky. Wesleyan, 81; Ph.D, Michigan, 92, M.D, 94. *Director, Bacter. and Serum Laboratories, Parke Davis and Co, 94–* Asst, Michigan, 91–95; lecturer bacter, Detroit Col. Med, 96– Soc. Bact; Am. Med. Ass; fel. Am. Acad. Med; Mich. Med. Soc; local med. societies. Bacteriology.—Etiology of hog cholera; etiology of vaccinia and smallpox.

McClintock, Dr. Emory, Morristown, N. J. **Mathematics, Actuarial science.* Carlisle, Pa, Sept. 19, 40. Dickinson, 53–56; Yale, 56–57; A.B, Columbia, 59; Göttingen, 61; A.M, Columbia, 62. Tutor math, Columbia, 59–60; U. S. consular agent, Bradford, England, 62–66; *actuary,* Asbury Life Ins. Co, 67–71; Northwestern Ins, Mutual Life Co, 71–89; *Mutual Life Ins. Co. of N. Y, 89–* Hon. Ph.D, Wisconsin, 84; LL.D, Columbia, 85; Yale, 99. F.A.A; Math. Soc. (pres, 90–94); Actuarial Soc. (pres, 95–97); Am. Acad; fel. N. Y. Acad; London Math. Soc; fel London Inst. Actuaries; cor. mem. Inst. des Act. français; Ass. des Act. de Belgique. Calculus of enlargement; literal and numerical equations; quadratic residues.

McClung, Prof. C(larence) E(rwin), 1301 Ohio St, Lawrence, Kas. *Cytology, Embryology, Paleontology.* Clayton, Cal, April 5, 70. Ph.G, Kansas, 92, A.B, 96, A.M, 98, Ph.D, 03. Asst. prof. *zool, Kansas,* 97–00, assoc. prof, 00–06, *prof, 06–, head, Dept. Zool, and curator vert. paleont. collections, 02–* Acting dean, Sch. of Med; mem. Embryol. Staff, Woods Hole, 03. M.A.A; Soc. Zool. (sec'y-treas.); Kas. Acad. Hereditary problems connected with the germ cells; sex determination.—The spermatocyte divisions of insects.

McClung, R(obert) K, Physics Building, McGill College, Montreal, Can. *Physics.* Elmira, Ont, Feb. 2, 74. A.B, McGill, 99, A.M, 01; A.B, Cambridge, England, 03. Demonstrator *physics, McGill,* 99–01, *senior demonstrator, 04–* Physical Soc. Energy required to produce ions; recombination of ions; ionization by X-rays; ionization from radium C.

McClure, Prof. Charles F(reeman) W(illiams), Princeton, N. J. **Comparative anatomy.* Cambridge, Mass, March 6, 65. A.B, Princeton, 88, A.M, 92. Instr. biol, *Princeton,* 91–95, asst. prof, 95–01, *prof. comp. anat, 01–* Soc. Nat; Soc. Zool; Ass. Anat; Philos. Soc; Nat. Geog. Soc. Comparative anatomy of vertebrates.

McCollom, Dr. John Hildreth, 745 Massachusetts Ave, Boston, Mass. *Contagious diseases.* Pittston, Me, May 6, 43. M.D, Harvard, 69. City physician, Boston, 80–95; *res. physician, South Dept, Boston City Hosp, 95–;* instr. *contagious diseases, Harvard,* 95–03, *asst. prof, 03–* Ass. Path. and Bact; Am. Med. Ass; Pediat. Soc; Mass. Med. Soc; Boston Soc. Med. Improv. Contagious diseases.

McConnell, R(ichard) G(eorge), Geological Survey of Canada, Ottawa, Can. *Geology.* Chatham, Que, March 26, 57. A.B, McGill, 79. *Geologist, Can. Geol. Surv, 80–* Geol. Soc. Geology of western Canada.—Geology of the Yukon territory.

McCook, Rev. Henry C(hristopher), Brookcamp, Devon, Pa. *Entomology.* New Lisbon, O, July 3, 37. A.B, Washington and Jefferson, 59; West. Theol. Sem, 61. Pastor, Tabernacle Presbyterian Church, Phila, 70–03. Prof. entom, Pa. Hort. Soc. D.D, Sc.D, Lafayette; LL.D, Washington and Jefferson. Entom. Soc. (past pres.); Philos. Soc; Phila. Acad. (v. pres.); Presbyterian Hist. Soc. (pres.); hon. mem. British Ass. Ants and spiders.

McCormack, Thomas J(oseph), La Salle, Ills. *Philosophy of science.* Brooklyn, N. Y, May 28, 65. A.B, Princeton, 84; Leipzig, 84–85; Tübingen, 85; Columbia, 87; A.M, Princeton, 87; LL.B, Chicago Col. of Law, 90. Coeditor, 'Open Court' and 'Monist,' 88–03; *principal, La Salle-Peru Township High Sch, 03–* Math. Soc; Philos. Soc. Philosophy and history of science.—History and theory of mechanics; heat.

McCoy, Dr. Herbert N(ewby), Kent Chemical Laboratory, University of Chicago, Chicago, Ills. *Chemistry.* Richmond, Ind, June 29, 70. B.S, Purdue, 92, M.S, 93; fellow, Chicago, 96–98, Ph.D, 98. Tech. chemist, Chicago, 93–94; prof. chem. and physics, Fargo, 94–96; asst. *chem,* Chicago, 98–99; asst. prof, Utah, 99–01; instr, *Chicago,* 01–03, *asst. prof, 03–* Chem. Soc; Electrochem. Soc; Chem. Gesell. Hydrochlorids of imidoethers; quinazolin derivatives; molecular weight apparatus; equilibrium in carbonate solutions; affinity constants of indicators; radio-activity of uranium compounds.

MacCracken, Chancellor H(enry) M(itchell), University Heights, New York, N. Y. *Psychology, Philosophy.* Oxford, O, Sept. 28, 40. A.B, Miami, 57; Xenia Theol. Sch, 60–62; Princeton Theol. Sem, 62–63. Teacher classics, Grove Acad, Cedarville, O, 57–58; supt. schools, South Charleston, O, 58–60; teacher classics, High Sch, Xenia, 60–61; prof. mental science, Western Univ, Pittsburg, 81–84; *prof. philos. and chancellor, N. Y. Univ, 84–* Hon. D.D, Wittenberg, 78; LL.D, Miami, 87. Philos. Ass. Psychology; philosophy; religion.

McCracken, Miss (Mary) Isabel, Stanford, Cal. *Physiology, Entomology.* Almeda Co, Cal. A.B, Stanford, 04, A.M, 05. Teacher, pub. schools, Oakland, 90–00; asst. physiol. and entom, *Stanford,* 03–04, *instr, Dept. Entom. and Bionomics, 04–* Asst. nature study, Stanford, 01–04; asst, Hopkins Biol. Lab, Pacific Grove, Cal, summer, 02; Cal. asst. to U. S. entomologist in mosquito investigations, summer, 03. M.A.A. Mosquitoes in California; inheritance of dichromatism in Lina lappomia.—Insect cytology; insect bionomics.

McCrae, Dr. Thomas, Johns Hopkins Hospital, Baltimore, Md. *Medicine.* Guelph, Can, Dec. 16, 70. A.B, Toronto, 91, fellow, 92–94, M.B, 95; Göttingen, 99; M.R.C.S, 00, M.R.C.P, 01; M.D, Toronto, 02. Instr. *med, Hopkins,* 99–01, *assoc, 01–* Res. physician, Hopkins Hosp, 01–04. Am. Physicians; Am. Med. Ass; British Med. Ass. Medicine.

McCreath, Andrew S, 121 Market St, Harrisburg, Pa. *Chemistry.* Ayr, Scotland, March 8, 49. Glasgow, 65–69; Göttingen, 69. Chief chemist, Pa. Steel Co, 70–74; Pa. Geol. Surv, 74–84; *practising anal. chemist, 84–* F.A.A; Min. Eng; Philos. Soc; Gt. Britain Iron and Steel Inst. Coal and iron resources of the southwest, Virginia and Kentucky.

McCurdy, Dr. C(harles) W(illiam), 528 S. 52nd St, Philadelphia, Pa. *Chemistry.* Ossian, N. Y, Nov. 26, 56. B.S, Mich. State, 81, M.S, 85; A.M, Ph.D, Wooster, 95. Head, Dept. Science, High Sch, Winona, Minn, 88–93; prof. chem, Idaho, and state chemist, 93–00; *prof. physiol. chem. and therapeut. and dean, Col. of Osteop, Phila, 01–* Acting pres, Idaho, and director, Exp. Sta, 99; special agent, U. S. sugar-beet investigations, Idaho, 98–99; ed, 'Phila. Jour. of Osteop.' Hon. Sc.D, Milton Col, 92. F.A.A; Chem. Soc; Osteop. Ass. Soils of Idaho; sugar-beets in Idaho; miscellaneous analyses.

MacCurdy, Dr. George Grant, Yale University

Museum, New Haven, Conn. *Anthropology.* Warrensburg, Mo, April 17, 63. B.S.D, Warrensburg State Nor. Sch, 87; A.B, Harvard, 93, A.M, 94; Vienna, 95–96; Paris, 96–97; Berlin, 97–98; Ph.D, Yale, 05. Principal, pub. schools, Tipton, Mo, 87–89; Pleasant Hill, Mo, 89–91; instr. prehistoric anthrop, *Yale,* 98–00, *lecturer anthrop. and curator anthrop. collection, 02–* Delegate from Paris Anthrop. Soc, Int. Cong. Americanists, N. Y, 02. F.A.A. (sec'y, H, 01, v. pres, 05); Anthrop. Ass. (sec'y, 04–); Archeol. Inst; fel. Éthnol. Soc; Nat. Geog. Soc; Conn. Acad. (sec'y); Wash. Anthrop. Soc; Berlin Anthrop. Gesell; Soc. d'Anthrop. de Paris; cor. École d'Anthrop. de Paris; cor. mem. Portuguese Inst. Coïmbra. Prehistoric archeology; physical anthropology.—Cranial characters of inhabitants of New Pomerania; ancient art of the province of Chiriqui, Panama; Eolithic problem.

MacDonald, Arthur, The Cairo, Washington, D. C. *Psychology, Sociology.* Caledonia, N. Y, July 4, 56. A.B, Rochester, 79; Union Theol. Sem, 83; Harvard, 83–85; Berlin, Paris, Zürich and Leipzig, 85–89. Docent criminol, Clark, 89–91; specialist, U. S. Bur. Educ, 92–03. Psychol. Ass; Soc. d'Hypnol. et Psychol. de Paris; Cong. del' Antrop. Crim; cor. Antwerp. Paedolog. Schooldiest. Criminals; psychological and anthropological study of children.—Abnormal children; psychophysical in connection with pathosocial studies.

McDonnell, Dr. H(enry) B(arnett), College Park, Md. *Chemistry.* Florence, Pa, Oct. 31, 63. B.S, Pa. State, 86; M.D, Col. Physicians and Surg, Baltimore, 88; Hopkins, 91. Asst. chem, Pa. State, 84–85; Md. Col. Pharmacy, 85–86; Col. Physicians and Surg, Baltimore, 87–88; asst. chemist, Pa. Exp. Sta, 88–91; *prof.* agr. chem, *Md. Agr. Col,* 91–92, *chem, 92–; state chemist, Md, 92–* F.A.A; Chem. Soc. Composition of fertilizers and feeding stuffs; methods of analysis of fertilizers and feeding stuffs.

McDonnell, Dr. M(ilton) E(arle), Altoona, Pa. *Bacteriology.* Florence, Pa, Feb. 26, 73. B.S, Pa. State, 93, M.S, 96; Ph.D, Kiel, 99. Asst. chemist and bacteriologist, Pa. Agr. Exp. Sta, 93–98; *bacteriologist, Pa. R. R. Co, 99–* Special agent, Pa. Dept. Agr, 97, 98. Soc. Bact; Chem. Soc. Milk; water; disinfectants.—Water examination and purification; disinfection; pathology.

McDonough, Dr. Eduard J(oseph), 624 Congress St, Portland, Me. *Histology.* Portland, Aug. 10, 67. A.B, Holy Cross, 89; M.D, Med. Sch. of Me, 92. *Pathologist, Me. Gen. Hosp, 96–, visiting physician, 02–;* instr. histol, *Med. Sch. of Me,* 97–04, *prof. obstet, 04–* Ass. Anat; Am. Med. Ass; Am. Acad. Med; Me. Med. Ass.

MacDougal, Dr. D(aniel) T(rembly), 3852 S. Boulevard, Bedford Park, New York, N. Y. **Botany.* Liberty, Ind, March 16, 65. B.S, De Pauw, 90; M.S, Purdue, 91; A.M, De Pauw, 93; Leipzig and Tübingen, 95–96; Ph.D, Purdue, 97. Instr. biol, Purdue, 90–93; bot, Minnesota, 93–95, asst. prof, 95–99; first asst. and director, Laboratories, N. Y. Bot. Garden, 99–04, asst. director, 04–05; *director, Dept. Bot. Research, Carnegie Inst, 05–* Special agent, U. S. Dept. Agr. bot. explorations, Ariz, 91; Idaho, 92; mem. Commission for Establishing Bot. Lab. in American Tropics, 96–98; ed, 'Jour. N. Y. Bot. Garden,' 95–05; mem. Advisory Board, Desert Bot. Lab, Carnegie Inst, 02–05. F.A.A. (sec'y, G, 00, Council, 01, gen. sec'y, 02); Soc. Nat; Bot. Soc. (sec'y, 01); Soc. Plant Morph. and Physiol; Torrey Bot. Club (assoc. ed, 'Bul,' 99–). Irritability and general reactions of plants; curvatures and movements; symbiosis; nutrition and growth; influence of various gases on plants.—Relation of light and darkness to growth and development; influence of temperature upon plants; relation of plants to climate; vegetation of American deserts; heredity and organic evolution.

MacDougall, Prof. Robert, Sedgwick Park, Bronx, New York, N. Y. **Psychology.* Dewittville, Que, June 12, 66. A.B, McGill, 90; A.M, Harvard, 93, Ph.D, 95; Berlin and Paris, 95–96; Instr. philos, Western Reserve, 96–97, assoc. prof. pedag, 97–98; instr. philos, Harvard, 98–01; *prof. anal. psychol, N. Y. Univ, 01–* F.A.A; Soc. Nat; Psychol. Ass; Philos. Ass; fel. N. Y. Acad. Sensory perception; attention; reaction; psychological esthetics.—Rhythms of common metres; number habit; ocular strain in relation to judgments of indeterminate number.

McElfresh, Dr. W(illiam) E(dward), Williamstown, Mass. *Physics.* Griggsville, Ills, Oct. 5, 67. A.B, Illinois Col, 88; A.B, Harvard, 95, A.M, 96, Ph.D, 00. Asst. *physics,* Harvard, 96–01, Austin teaching fellow, 01–02, instr, Radcliffe, 97–01; *Williams,* 01–03, asst. prof, 03–05, *Thomas T. Read prof, 05–* M.A.A; Physical Soc. Occlusion of hydrogen by palladium.

McFarland, Prof. David F(ord), 929 Connecticut St, Lawrence, Kas. *Chemistry.* Mansfield, O, Aug. 1, 78. A.B, Kansas, 00, A.M, 01; M.S, Yale, 03. Instr. *chem, Kansas,* 00–03, *asst. prof, 03–* Chem. Soc. Reactions of organic acid esters and chlorids in liquid ammonia solutions; molecular rearrangement of unsymmetrical acylamidins into isomeric symmetrical derivatives.—Synthesis of mixed anhydrids of the chlor acetic acids.

McFarland, Prof. F(rank) M(ace), Stanford University, Cal. **Histology, Cytology.* Centralia, Ills, June 10, 69. Ph.B, De Pauw, 89; A.M, Stanford, 93; Würzburg and Zürich, 94–96, Ph.D, Würzburg, 96. Prof. biol, Olivet, 89–92; instr. *histol, Stanford,* 92–94, asst. prof, 94–97, *assoc. prof,* 97– Cal. Acad; San Francisco Micros. Soc; Wash. Biol. Soc. Cytology; opisthobranch Mollusca; invertebrate zoology.—Vertebrate spermatogenesis; neurocytology of Mollusca; Pacific coast Opisthobranchiata.

McFarland, Prof. Joseph, 442 W. Stafford St, Germantown, Philadelphia, Pa. *Pathology, Bacteriology.* Philadelphia, Feb. 9, 68. M.D,

Pennsylvania, 89. Demonstrator path. histol. and lecturer bacter, Pennsylvania, 92–96; *prof. path. and bacter, Medico-Chirurg. Col, Phila, 96–* Assoc. ed, 'Medicine.' Hon. M.D, Medico-Chirurg. Col, Phila, 98. M.A.A; Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Soc. Tropical Med. (sec'y); Pub. Health Ass; Pa. Med. Soc; Phila. Col. Physicians; Phila. Path. Soc; Phila. Co. Med. Soc. Medical pathology and bacteriology.

McFarland, W(alter) M(artin), 154 S. Homewood Ave, Pittsburg, Pa. *Marine and mechanical engineering.* Washington, D. C, Aug. 5, 59. Grad, U. S. Naval Acad, 79. Asst. prof. mech. eng, Cornell, 83–85; asst. and later principal asst. to engineer-in-chief, U. S. N, 89–94, 97–98, chief engineer, 98, lieut, 99, resigned, 99; *v. pres, Westinghouse Elec. and Mfg. Co, 99–* Lecturer marine eng, U. S. Naval War Col, 94; mem. Personnel Board, U. S. N, 97; lecturer, Sibley Col, Cornell, 00– Int. Eng. Cong, 93 (sec'y, Div. Marine Eng.); delegate from U. S. N. to Int. Cong. Naval Archit. and Marine Eng, London, 97. Naval Eng. (ed, 'Jour.'); Mech. Eng; Naval Archit. and Marine Eng. (mem. Council). Marine engineering.

Macfarlane, Prof. A(lexander), Victoria Ave, Chatham, Ont, Can. **Mathematical physics.* Blairgowrie, Scotland, April 21, 51. A.M, Edinburgh, 75, fellow, 75–78, B.S, 77, Sc.D, 78. Instr. physics, Edinburgh, 74–76, examiner math, 81–84; prof. physics, Texas, 85–94; *lecturer math. physics, Lehigh, 95–* LL.D, Michigan, 87. F.A.A. (sec'y, B, 88, 91, v. pres, 96, 99); Math. Soc; Astron. and Astrophys. Soc; Elec. Eng; Wash. Acad; British Ass; fel. Edinburgh Royal Soc; Math. Verein; Circolo Mat. di Palermo; cor. mem. Soc. Cient. Ant. Alz; Int. Ass. Prom. Quaternions (sec'y, 97–). Vector analysis and quaternions; mathematical logic; electricity; bibliography of quaternions and allied mathematics; recent progress in quaternion analysis.—British mathematicians of the nineteenth century.

Macfarlane, Prof. J(ohn) M(uirhead), Botanical Department, University of Pennsylvania, Philadelphia, Pa. **Botany.* Kirkcaldy, Scotland, Sept. 28, 55. B.S, Edinburgh, 80, Sc.D, 83. Asst. bot, Edinburgh, 80; lecturer, St. George's Col. and Royal Vet. Col, 81–89; first asst, Edinburgh, 88; *prof.* biol, *Pennsylvania, 92–93, bot, 93–, director, Bot. Garden, 96–* Curator, Herbarium, Edinburgh, 84–88; acting ed, 'Trans. Edinburgh Bot. Soc,' 85–90; univ. extension lecturer, Phila, 91–92; ed, 'Bot. Contrib,' Pennsylvania, 94– F.A.A; Soc. Plant Morph. and Physiol. (pres, 90); Philos. Soc; Pa. Bot. Soc. (founder, 97, curator, 97–); Phila. Acad; British Ass; Edinburgh Royal Soc; Edinburgh Bot. Soc. (acting sec'y, 85–90). Cell structure; insectivorous plants; plant hybrids; sensitive-plants; general histology.—Sensitive-plant movements; glands of mangroves; hybrid rhododendrons; etc.

McGee, Dr. Anita Newcomb, St. Louis, Mo. *Medicine.* Washington, Nov. 4, 64. Private schools; Geneva and Berlin, 82–85; M.D, Columbian, 92. Acting asst. surgeon, U. S. A, in charge, Army Nurse Corps, 98–00; supervisor of nurses, with officer's rank, Japanese Army, 04. Imperial Order of Sacred Crown, Japan. F.A.A. (sec'y, H, 97); Ass. Mil. Surgeons.

McGee, Dr. W J, St. Louis Public Museum, St. Louis, Mo. **Ethnology, Anthropology, Geology, Archeology.* Dubuque Co, Ia, April 17, 53. Common schools; private study. Private geol. surv, northeastern Ia, 78–83; geologist, U. S. Geol. Surv, 83–93; ethnologist in charge, Bur. Am. Ethnol, 93–03; *U. S. Commissioner, Int. Archeol. and Ethnol. Commission, 02–;* chief, Dept. Anthrop. and Ethnol, La. Purchase Expos, 03–05; *director, St. Louis Pub. Mus, 05–* Assoc. ed, 'Am. Anthropologist' and 'Nat. Geog. Mag.' LL.D, Cornell (Ia.). F.A.A. (sec'y, E, 91, v. pres, H, and acting pres, 97); Soc. Nat; Anthrop. Ass. (past pres.); Geol. Soc. (ed, 'Bul.'); Geog. Ass; Archeol. Inst. (v. pres.); Nat. Geog. Soc. (past pres.); Wash. Acad. (past v. pres.); Wash. Anthrop. Soc. (past pres.); mem. all scientific societies of Wash; Columbia Hist. Soc. Geology; surveys and mapping; glacial geology; general anthropology; ethnology.

McGill, Prof. J(ohn) T(homas), Vanderbilt University, Nashville, Tenn. *Chemistry.* Monroe Co, Tenn, Oct. 13, 51. B.S, Vanderbilt, 79, fellow, 79–81, Ph.D, 81, Ph.G, 82; Berlin, 85–86. Instr. chem, *Vanderbilt,* 81–86, adj. prof, 86–00, *prof. org. and physical chem. and dean, Dept. Pharmacy, 00–* F.A.A; Chem. Soc; Soc. Chem. Indust; Pharmaceut. Ass; Chem. Gesell; Soc. chim. de Paris.

MacGillivray, Dr. Alex(ander) D(yer), Cornell University, Ithaca, N. Y. *Zoology, Entomology.* Inverness, O, July 15, 68. Wooster, 87–89; Cornell, 89–91, Ph.B, 00, Ph.D, 04. Asst. *entom, Cornell,* 90–00, *instr, 00–* Classification of Thysanura; classification and description of new species of Tenthredinoidea; respiration and postembryonic development of Donacia larvæ; embryology of Corydalis connutus; wing venation and phylogeny of the Tenthredinoidea.

McGilvary, Prof. E(vander) B(radley), University of Wisconsin, Madison, Wis. *Ethics, Philosophy.* Bangkok, Siam, July 19, 64. A.B, Davidson, 84; A.M, Princeton, 88; Ph.D, California, 97. Translator in Siam, 91–94; instr. English, California, 94–95, logic and psychol, 95–97, asst. prof. logic and epistemol, 97–99; Sage prof. ethics, Cornell, 99–05; *prof. philos, Wisconsin, 05–* M.A.A; Psychol. Ass; Philos. Ass. Hegel's logic; the psychic process of knowledge; the psychology of the moral life.—Theory of moral value; historic forms of morality.

McGregor, Dr. J(ames) H(oward), Columbia University, New York, N. Y. *Zoology.* Bellaire, O, July 23, 72. B.S, Ohio State, 94; fellow, Columbia, 95–97, A.M, 96, Ph.D, 99. Asst. *zool,* Ohio State, 94–95; *Columbia,* 97–99, tutor, 99–04, *lecturer, 04–* Instr. zool, Woods Hole.

F.A.A; Soc. Zool; Paleont. Soc. Vertebrate morphology; spermatogenesis; vertebrate paleontology; morphology and relationships of the Phytosauria.—Development of the skull in Dipnoi.

McGregory, Prof. J(oseph) F(rank), Hamilton, N. Y. *Chemistry, Mineralogy.* Wilbraham, Mass, April 11, 55. A.B, Amherst, 80, A.M, 83; Göttingen, 80–81, 83–84; Heidelberg, 90–91, 96. Instr. chem, Amherst, 81–83; *prof. chem. and miner, Colgate, 84–* Hon. Sc.D, Amherst, 05. F.A.A; Chem. Soc; fel. London Chem. Soc; Chem. Gesell.

McGuire, J(oseph) D(eakins), 1834 16th St, N. W, Washington, D. C. *Archeology.* Washington, Nov. 26, 42. Princeton, 59–61; Orleans, Dresden and Würtemberg, 61–64. State's attorney, Howard Co, Md, 84–00. Hon. A.M, Princeton, 01. F.A.A. Technology of archeology; primitive methods of drilling; pipes and smoking customs of American aborigines.—Reference in early American publications to aboriginal manners and customs, chiefly under Spanish rule.

McIlhiney, Dr. Parker C(airns), 145 E. 23d St, New York, N. Y. *Chemistry.* Jersey City, N. J, Oct. 9, 70. Ph.B, Columbia, 92, A.M, 93, Ph.D, 94. Hon. asst. assaying, Columbia, 93–94, asst. metal, 94–00; *consulting chemist, 98–* With Louis C. Tiffany (artistic work in glass, enamel, etc.), N. Y. City, 94– Silver and bronze medals, Paris Expos, 00. Chem. Soc; Soc. Chem. Indust; N. Y. Chemists Club. Glass; pottery enamels; oils; fats; varnishes.—Constitution of glass and enamel.

McInnes, William, Geological Survey, Ottawa, Can. *Geology.* Fredericton, N. B, Jan. 1, 58. A.B, New Brunswick, 79. *Geologist, Can. Geol. Surv, 82–* Geol. Soc. Geology.

McKay, Prof. A(lexander) C(harles), 13 Prince Arthur Ave, Toronto, Can. *Mathematics, Physics.* Beamsville, Ont, June 2, 61. A.B, Toronto, 85, fellow, 87–88; Cambridge, 96–97. Master math, High Sch, Port Hope, 85–87; asst. master *math,* Upper Canada, 87–89; *prof, McMaster, 90–* Lecturer physics, Toronto, 90–91; methods of teaching math, Ont. Sch. of Pedag, 90–92. LL.D, McMaster, 02. Math. Soc.

McKeag, Prof. Anna J(ane), Wellesley, Mass. *Psychology, Pedagogy.* West Finley, Pa, March 13, 64. A.B, Wilson, 95; Ph.D, Pennsylvania, 00. Prof. philos, Wilson, 92–02, dean, 01–02; instr. *pedag, Wellesley,* 02–03, *assoc. prof, 03–* Soc. Col. Teachers of Educ. Psychology of sensation.—Experimental pedagogy.

McKee, Prof. Ralph H(arper), Lake Forest, Ills. *Chemistry.* Clinton, Mo, June 20, 74. A.B, Wooster, 95, A.M, 97; Ph.D, Chicago, 01. Asst. chem, Wooster, 94–95; prof. chem. and math, Carthage, 95–98; instr. *chem, Lake Forest,* 00–01, *prof, 01–* M.A.A; Chem. Soc; Chem. Gesell. The isourea ethers.—The absence or presence of an asymmetric carbon atom in the salts of the isourea ethers.

McKellar, Peter, Fort William, Ont, Can. *Mining, Geology.* Middlesex Co, Ont, April 27, 38. Pub. schools. Mines explorer; in charge party under Dr. R. Bell, Can. Geol. Surv, 69–70; supt, Huronian Gold Mine, 82–84; supt. exploration and development works, Toronto and Western Mines Development Co, Seine River and Lake of the Woods districts, 97–98. Geol. Soc; Can. Geol. Soc. Mining; geology.

McKenna, Dr. Charles F(rancis), 155 W. 91st St, New York; N. Y. *Metallurgy, Chemistry.* New York, June 4, 61. A.B, St. Francis Xavier, 79, A.M, 80; Ph.B, Columbia, 83, Ph.D, 94. Chemist, various companies, 85–93; director, Lab. of Physical Testing, 93–95; chemist, Passaic Zinc Co, 95–97; *consulting chemist, 97–* Chemist mem. Munic. Explosives Commission, N. Y. City, 02–04. Min. Eng; Chem. Soc. (past chairman, N. Y. Sect.); Soc. Chem. Indust; Civil Eng; Int. Ass. Testing Materials. Metallurgy; chemistry.—History of bronze; properties of Portland cement.

McKenney, Prof. R(andolph) E(vans) B(ender), U. S. Department of Agriculture, Washington, D. C. *Botany.* Philadelphia, Pa, June 7, 78. B.S, Pennsylvania, 98, M.S, 99; Ph.D, Basel, 01. Asst. vert. morph, Pennsylvania, 96–97, bot, 97–99; prof. biol, High Sch, Santa Ana, Cal, 99–00; expert path. and physiol, U. S. Dept. Agr, 01–04; asst. prof. bot, Columbian, 02–04; *expert, United Fruit Co, Bocas del Toro, Panama, 05–* F.A.A; Wash. Bot. Soc; Wash. Biol. Soc; S. Cal. Acad. Development of the embryo-sac; California ecology; luminous bacteria; plant nutrition.—Nature and properties of oxidases; physiology of Saccharomyces niger marp; some tobacco diseases.

Mackenzie, Prof. A(rthur) Stanley, Dalhousie College, Halifax, N. S, Can. **Physics.* Pictou, N. S, Sept. 26, 65. A.B, Dalhousie, 85; fellow, Hopkins, 90, Ph.D, 94. Tutor math, Dalhousie, 87–89; lecturer *physics,* Bryn Mawr, 91, assoc, 92–94, assoc. prof, 94–97, *prof,* 97–05; *Dalhousie, 05–* Physical Soc; Philos. Soc. Attraction of crystals; vibration of rods in liquids; heat conduction.—Spectrum analysis; alpha rays.

McKenzie, Dr. R(obert) Tait, 121 S. 18th St, Philadelphia, Pa. *Anatomy, Physical training.* Almonte, Ont, May 26, 67. A.B, McGill, 89, M.D, C.M, 92. House surgeon, Montreal Gen. Hosp, 93; ship surgeon, Beaver Line steamships, 94; med. director physical training, McGill, 95–04, asst. demonstrator anat, 94, demonstrator, 96, lecturer, 04; *prof. physical educ. and director, Dept. Physical Educ, Pennsylvania, 04–* Lecturer artistic anat, Montreal Art Ass, 99–03; Harvard, 00–01. Ass. Anat; Ass. Adv. Physical Educ; Soc. Col. Gym. Directors (pres, 01, 04); Soc. for Research in Physical Educ; fel. Phila. Col. Physicians; British Med. Ass. Facial expression in violent effort; anatomical characteristics of athletes; treatment of scoliosis and other deformities by exercise; the type of figure in the American college athlete as compared with Greek ideals (statue and measurements).

McKinney, Prof. Thomas E(mery), 412 Wooster St, Marietta, O. *Mathematics, Astronomy.* Hebron, W. Va, April 26, 64. A.B, Marietta, 87, A.M, 90; Hopkins, 89–90, 95, 96; Chicago, 96–97, Ph.D. Tutor math, Marietta Acad, 87–89; *prof. math. and astron, Marietta, 90–* M.A.A; Math. Soc; Pacific Astron. Soc. Continued fractions.

Maclay, Prof. James, 600 W. 114th St, New York, N. Y. **Mathematics.* Troy, N. Y, Nov. 6, 64. C.E, Columbia, 88, fellow, 88–91, Ph.D, 99. Instr. *math, Columbia,* 95–01, *adj. prof, 01–* M.A.A; Math. Soc.

MacLean, Pres. George E(dwin), 603 College St, Iowa City, Ia. *Education.* Rockville, Conn, Aug. 31, 50. A.B, Williams, 71, A.M, 74; B.D, Yale Divinity Sch, 74; Ph.D, Leipzig, 83. Pastor, Union Church, New Lebanon, N. Y, 74–77; Memorial Presbyterian Church, Troy, N. Y, 77–81; prof. English language and lit, Minnesota, 84–95; chancellor, Nebraska, 95–99; *pres, Iowa, 99–* LL.D, Williams. F.A.A; Philol. Ass; Mod. Lang. Ass; Am. Dialect Soc; London Philol. Soc. English literature; education.

McLennan, Prof. J(ohn) C(unningham), University of Toronto, Toronto, Can. *Physics.* Ingersoll, Ont, April 14, 67. A.B, Toronto, 92; Cambridge, 98–99; Ph.D, Toronto, 00. Asst. demonstrator *physics, Toronto,* 92–99, demonstrator, 99–02, *assoc. prof, 02–, director, Physical Lab, 04–* F.A.A; Physical Soc; fel. Can. Royal Soc. Electrical conductivity of gases; radio-activity.—Spontaneous ionization and excited radio-activity.

MacLennan, Prof. S(imon) F(raser), 162 S. Cedar St, Oberlin, O. *Philosophy.* Harriston, Ont, Sept. 18, 70. A.B, Toronto, 93; Ph.D, Chicago, 96. Asst, Psychol. Lab, Chicago, 94–95, 96–97; assoc. prof. *philos. and educ, Oberlin,* 97–00, *prof, 00–* Principal pub. schools, Comber, Ont, 88–89. Impersonal judgment; emotion, desire and interest; the image and the idea; transsubjective realism and Hegelianism; typical stages in the development of judgment; the methodological value of psychology in metaphysics; the fundamental problem of religion.—Logic; ethics.

McLeod, Prof. C(lement) H(enry), McGill College Observatory, Montreal, Can. *Geodesy, Astronomy.* Cape Breton, Can, Jan. 20, 51. B.S, M.E, McGill, 73. *Prof. geod, McGill, 88–* Civil engineer. Astron. and Astrophys. Soc; fel. Can. Royal Soc; Can. Civil Eng. Sunspot periods; soil temperatures and conductivity of soils; longitude determinations and methods.

MacLeod, Prof. J(ohn) J(ames) R(ickard), Western Reserve Medical College, Cleveland, O. *Physiology.* Dunkeld, Scotland, Sept. 6, 76. M.B, Ch.B, Aberdeen, 98, Anderson scholar, 98–00; Leipzig, 98–99; D.P.H, Cambridge, 02. Demonstrator physiol, London Hosp, 99–02, lecturer biochem, 02; Mackinnon research scholar, Royal Soc, 01–03; *prof. physiol, Western Reserve, 03–* Assoc. ed, 'Jour. Biol. Chem,' 05. Physiol. Soc; British Physiol. Soc. The causation of caisson disease; biochemistry of carbamates; physiological glycosuria.—Biochemistry of carbamates; physiological glycosuria.

Macloskie, Prof. Geo(rge), 239 Nassau St, Princeton, N. J. *Biology.* Castledawson, Ireland, Sept. 14, 34. A.B, Queen's (Ire.), 57, A.M, 58; LL.B, London, 68, LL.D, 71. Pastor, Presbyterian church, Ballygoney, Ireland, 61–74; *prof. biol, Princeton, 75–* Gold medalist, London; Queen's (Ire.), twice; hon. Sc.D, Royal (Ire.), 87. F.A.A; Soc. Nat; N. Y. Acad; Torrey Bot. Club. Structure of insects; phanerogamic botany; physico-theology.—Flora of Patagonia.

McMahon, Prof. James, 7 Central Ave, Ithaca, N. Y. **Mathematics, Mathematical physics.* Armagh, Ireland, April 22, 56. A.B, Dublin, 81, A.M, 90. Examiner *math, Cornell,* 83–84, instr, 84–90, asst. prof, 90–04, *prof, 04–* Assoc. ed, 'Annals of Math,' 91–98. F.A.A. (sec'y, A, 97, gen. sec'y, 98, v. pres, 01); Math. Soc; London Math. Soc. Mathematical functions needed in the solution of various physical, statistical and geometrical problems.—Flow of heat, electricity and fluids; applications of invariant theory to geometry, and of the calculus to sociology and psychophysics.

McMath, Rob(er)t E(mmett), 5931 Horton Place, St. Louis, Mo. *Civil engineering.* Varick, N. M, April 28, 33. A.B, Williams, 57. Deputy county surveyor, St. Louis, 59–62; with U. S. Coast Surv, 62–65; asst. engineer, U. S. Engineer Corps, 67–80; asst, Miss. River Commission, 80–83; sewer commissioner, *St. Louis,* 83–91, pres, Board of Pub. Improv, 93–01, *city surveyor, 01–* Civil Eng; Soc. Munic. Improv; St. Louis Eng. Club. River hydraulics; sewering; municipal works and administration.—Water supply for large cities, especially of St. Louis.

MacMillan, Prof. Conway, 810 Sixth St, S. E, Minneapolis, Minn. **Botany.* Hillsdale, Mich, Aug. 26, 67. A.B, Nebraska, 85, A.M, 86; Hopkins, 86–87; Harvard, 87–88. State entomologist, Nebr, 86; instr. *bot, Minnesota,* 87–91, asst. prof, 91–93, *prof, 93–; state botanist, Minn, 93–* Hon. commissioner, U. S. Dept. Agr, 97; director, Minn. Seaside Sta. M.A.A; Soc. Nat; Bot. Soc; Soc. Plant Morph. and Physiol; Bot. Cent. States; Minn. Bot. Soc; Minn. Acad; Int. Ass. Bot; Soc. bot. de France. Anatomy of kelps; embryology of plants; ecology.—Embryology of plants; marine distribution.

McMurrich, Prof. J(ames) Playfair, 1701 Hill St, Ann Arbor, Mich. **Animal morphology.* Toronto, Can, Oct. 16, 59. Upper Canada; A.B, Toronto, 79, A.M, 81; Ph.D, Hopkins, 85. Prof. biol, Ont. Agr. Col, 82–84; instr. mammalian anat, Hopkins, 84–86; prof. biol, Haverford, 86–89; docent and asst. prof. animal morph, Clark, 89–92; *prof.* biol, Cincinnati, 92–94; *anat, Michigan, 94–* Instr, Woods Hole, 87–91. Soc. Nat; Soc. Zool. (sec'y, 90–93); Ass. Anat; fel. Royal Micros. Soc. Morphology of Actinaria; embryology of Mollusca and Crus-

tacea; myology and osteology of lower vertebrates.—Morphology of Actinaria; phylogeny of limb muscles of Mammalia.

McMurtrie, Dr. William, 101 W. 81st St, New York, N. Y. **Chemistry.* Belvidere, N. J. March 10, 51. E.M, Lafayette, 71, M.S, 74, Ph.D, 75. Asst. chemist, U. S. Dept. Agr, 72–73, chief chemist, 73–77; representative of U. S. Dept. Agr, Paris Expos, 78; special agent agr. technol, U. S. Dept. Agr, 79–82; prof. chem, Illinois, 82–88; chemist, Ills. Agr. Exp. Sta. and Ills. State Board of Agr, 84–88; *consulting chemist,* N. Y. Tartar Co, 88–00; *Royal Baking Powder Co, 00–* Mem. Committee on Awards, Columbian Expos, 93; delegate of U. S. Dept. Agr, Fifth Int. Cong. Applied Chem, Berlin, 02; consulting prof. tech. chem, Brooklyn Polytech, 05– Chevalier du Mérite agricole, 84. F.A.A. (sec'y, C, 83, 86, v. pres, 95); Chem. Soc. (chairman, N. Y. Sect, 96–97, 98, pres, 00); Wash. Acad. Agricultural and applied chemistry.

McNair, Pres. F(red) W(alter), Houghton, Mich. *Physics, Geophysics.* Fennimore, Wis, Dec. 3, 62. Fellow, B.S, Wisconsin, 91. Asst. math, Wisconsin, 89–91; asst. prof, Mich. Agr. Col, 92–93; prof. math. and physics, *Mich. Col. of Mines,* 93–99, acting pres, 99, *pres. and prof. physics, 99–* F.A.A. (v. pres, 04–05); Eng. Educ. (v. pres, 02, pres, 04–05); Lake Superior Min. Inst. Mechanics and physics of deep mines.—Variation of gravity with distance below the surface; the subsurface temperature gradient.

MacNeal, Dr. W(ard) J, 417 E. Washington St, Ann Arbor, Mich. *Microbiology.* Fenton, Mich, Feb. 17, 81. A.B, Michigan, 01, Ph.D, 04, Rockefeller fellow, 03–04, 05, M.D, 05. Asst. bacter, *Michigan,* 01–03, *instr. histol, 05–* Soc. Bact. Hematozoa of mammals and birds. —Flagellates in mosquitoes.

McNeill, Prof. Jerome, 1135 Main St, Richmond, Ind. *Biology, Entomology.* Laurel, O, Sept. 25, 57. Antioch; B.S, Indiana, 86; Stanford, 99–00. Principal, High Sch, Moline, Ills, 86–90; *prof. biol,* Arkansas, 90–99; *Palmer, 02–* Field agent, U. S. Dept. Agr, 90–91. Wash. Entom. Soc; Davenport Acad. (curator entom.). Systematic entomology.—Homology of venation of wings of Orthoptera; Orthoptera of the United States.

McNeill, Prof. Malcolm, Lake Forest, Ills. *Mathematics, Astronomy.* Galena, Ills, March 1, 55. A.B, Princeton, 77, fellow, 78, A.M, 80, Ph.D, 89. Instr. and later asst. prof. astron, Princeton, 78–88; *prof. astron. and math, Lake Forest, 88–* F.A.A; Math. Soc.

MacNutt, Barry, South Bethlehem, Pa. *Physics, Electrical engineering.* Fort McHenry, Md, June 15, 78. E.E, Lehigh, 97, M.S, 98. *Instr. physics and elec. eng, Lehigh, 99–* Asst. to U. S. A. inspector of ordnance, Bethlehem Steel Works, 98–99. F.A.A; Electrochem. Soc; Franklin Inst. Polarization of electrolytic cells; electrometallurgy of certain iron ores; the copper voltameter.—Improvements in telephonic apparatus.

McPhedran, Dr. Alexander, 151 Bloor St, W, Toronto, Can. *Medicine.* Ontario, Can. M.B, Toronto, 76. *Prof. med. and clin. med, Toronto.* Am. Physicians; several Can. med. societies; British Med. Ass. Internal medicine.

McPherson, Prof. William, University Grounds, Columbus, O. **Chemistry.* Xenia, O, July 2, 64. B.S, Ohio State, 87, M.S, 90, Sc.D, 95; Ph.D, Chicago, 99. Instr. chem. and physics, High Sch, Toledo, 87–92; assoc. prof. *chem, Ohio State, 95–97, prof, 99–* Mem. Committee of Ten on Science Teaching, Nat. Educ. Ass. F.A.A. (sec'y, C, 01); Chem. Soc; Chem. Gesell. Constitution of the oxyazo-compounds.

McRae, Dr. A(ustin) L(ee), Rolla, Mo. *Physics.* Near McRae, Ga, Oct. 25, 61. B.S, Georgia, 81; Sc.D, Harvard, 86. Elec. work, U. S. Signal Service, 82–89; asst. prof. *physics,* Missouri, 89–91, prof, Sch. of Mines, 91–94; assoc. prof, Texas, 94–96; *prof, Sch. of Mines, Missouri, 99–* Consulting engineer, St. Louis, 96–99. F.A.A; Tex. Acad; St. Louis Eng. Club. Elasticity of ice; cold on magnetism; change of dimensions due to magnetism.

MacVannel, Dr. John Angus, 2441 Seventh Ave, New York, N. Y. *Philosophy, Education.* St. Mary's, Can, Oct, 5, 71. A.B, Toronto, 93, A.M, 94; Ph.D, Columbia, 98. Asst. to prof. of philos. and educ, Columbia, 95–97; *instr. psychol. and educ, Pratt and Brooklyn Institutes, 97–;* lecturer philos, *Columbia,* 02, instr. *educ, Teachers Col,* 02–03, *prof, 04–* F.A.A; Philos. Ass; Nat. Educ. Ass. Hegel's doctrine of the will.

Maddison, Miss Isabel, Low Buildings, Bryn Mawr, Pa. *Mathematics.* Reading, England. Univ. Col. of South Wales and Monmouthshire, 85–89; Girton, Cambridge, 89–92; Bryn Mawr, 92–93; B.S, London, 93; fellow, Bryn Mawr, 93–94; Göttingen, 94–95; Ph.D, Bryn Mawr, 96; A.B, Trinity (Dublin), 05. Asst. sec'y to pres, *Bryn Mawr,* 95–96, sec'y, 96–04, *reader in math, 96–, asst. to pres, 04–* Math. Soc; London Math. Soc. Theory of singular solutions of differential equations of the first order.

Magie, Prof. W(illiam) F(rancis), Princeton, N. J. **Physics.* Elizabeth, N. J, Dec. 14, 58. A.B, Princeton, 79, A.M, 82; Ph.D, Berlin, 85. Asst. and instr. *physics, Princeton,* 79–85, asst. prof, 85–90, *prof, 90–* F.A.A; Physical Soc; Philos. Soc. Capillarity; specific heats of solutions.—Specific heats of solutions.

Magnusson, Prof. C(arl) Edward, University of Washington, Seattle, Wash. *Physics.* Stark, Minn, Sept. 29, 72. B.E.E, Minnesota, 96, M.S, 97; fellow, Wisconsin, 99–00, Ph.D, 00. Teacher science, State High Sch, St. Cloud, Minn, 00–01; prof. physics, New Mexico, 01–04; *assoc. prof. elec. eng, Washington (Seattle), 04–* M.A.A; assoc. Elec. Eng; Nat. Elec. Light Ass; Nat. Educ. Ass; Pacific Northwest Soc. Eng; Pacific Coast Elec. Trans. Ass; Wis. Acad; N. Mex. Acad. Light; electricity; anomalous dispersion; soil moisture.—Energy.

Magrath, Dr. George Burgess, 20 St. Botolph Studios, Boston, Mass. *Pathology.* Jackson, Mich, Oct. 2, 70. A.B, Harvard, 94, Bullard fellow, 97–98, M.D, 98, A.M, 99. *Asst. path, Harvard Med Sch, 98–* Pathologist, Long Isl, Cambridge, Faulkner, Carney, and Baptist Hospitals, Boston. Ass. Path. and Bact; Mass. Med. Soc; Boston Soc. Med. Sci. Normal and pathological histology of arteries; histology of tumors; pathological anatomy and histology of variola; experimental variola in the monkey; the leucocyte reaction in variola; the infectiveness of the blood in variola.—Arteriosclerosis; melanoderma; acute yellow atrophy of the liver.

Magruder, Prof. W(illia)m T(homas), 191 King Ave, Columbus, O. *Mechanical engineering.* Baltimore, Md, April 22, 61. M.E, Stevens, 81; Hopkins, 86–87. Designer, Campbell Printing Press and Mfg. Co, Taunton, Mass, 81–86; chief chemist, B. and O. R. R, 87; instr. *mech. eng,* Vanderbilt, 87–88, adj. prof, 88–96; *prof, Ohio State, 96–* Chief of machinery, Tenn. Expos, 96. F.A.A. (sec'y, D, 00, 04, 05); Mech. Eng; Min. Eng; Eng. Educ. Gas enginery.

Major, Prof. C(harles) C(urtis), University of Oklahoma, Norman, Okla. *Mechanical engineering.* Lehman, Pa, Jan. 4, 69. M.E, Bloomsburg Nor. Sch, 91; M.E, Cornell, 98. Asst. chief engineer, Swift and Co, St. Joseph, Mo, 98–99; instr. mech. eng, Cornell, 99–01; California, 01–02; *prof. physics and elec. and head, Sch. Applied Sci, Oklahoma.* Mechanical engineering.

Major, Prof. David R, 387 King Ave, Columbus, O. *Philosophy, Education.* Frankfort, Ind, March 26, 66. B.S, Wabash, 90; Ph.D, Cornell, 96; higher diploma in educ, Teachers Col, Columbia, 99. Principal, High Sch, Warren, Ind, 90–92; Frankfort, Ind, 96–98; acting prof. pedag, Nebraska, 99–00; asst. *educ,* Teachers Col, Columbia, 00–01; *prof, Ohio State, 01–* M.A.A; Psychol. Ass; Soc. Sci. Educ; West. Philos. Soc; Ass. Univ. Professors Educ. Psychology; education.—The spread of mental ability; difficulties of investigating the problem of mental fatigue; comparative study of eye-mindedness and ear-mindedness; psychology of infancy.

Makuen, Dr. G(eorge) Hudson, 1627 Walnut St, Philadelphia, Pa. *Medicine.* Goshen, N. Y, July 16, 55. A.B, Yale, 84; M.D, Jefferson Med. Col, 89. Instr, Jefferson Med. Col, 89–92; *laryngologist, St. Mary's and Douglas Mem. Hosp, 90–; prof. defects in speech, Phila. Polyclinic, 96–* Instr, Centenary Collegiate Inst, 79–80; Nat. Sch. Elocution and Oratory, 84–86; consultant, N. J. Training Sch. for Feebleminded Children. M.A.A; Laryngol. Ass; Laryngol, Rhinol. and Otol. Soc; Am. Med. Ass. (pres, Sect. Laryngol. and Otol, 02); fel. Am. Acad. Med. (pres, 00); Phila. Col. Physicians. Causes and treatment of defects in speech.

Mall, Dr. F(ranklin) P(aine), Johns Hopkins University, Baltimore, Md. **Anatomy, Histology, Embryology.* Belle Plaine, Ia, Sept. 28, 62. M.D, Michigan, 83; fellow, Hopkins, 86–88. Instr. path. and bacter, Hopkins, 88–89; adj. prof. vert. anat, Clark, 89–92; *prof. anat,* Chicago, 92–93; *Hopkins, 93–* Co-editor, 'Jour. Anat,' 01–; mem. Committee, Int. Ass. of Academies for Brain Research. Hon. A.M, Michigan, 00; LL.D, Wisconsin, 04. Soc. Nat; Ass. Anat; Physiol. Soc; Soc. Zool; Am. Acad. Connective tissues; structure and development of organs; structure of the spleen; transitory fissures of the brain; pathology of early human embryos; vasomotor nerves of veins; cœlom; intestinal contraction; histology of the stomach and intestine; development of the intestine and diaphragm; development of veins of the brain. —Anatomy of human embryos; structural units; anatomical statistics.

Mallet, Dr. J(ohn) W(illiam), University of Virginia, Charlottesville, Va. **Chemistry.* Dublin, Ireland, Oct. 10, 32. Ph.D, Göttingen, 52; A.B, Dublin, 53; M.D, Louisiana, 68. Prof. chem, Alabama, 56–60; Med. Col. of Ala, 60–61; first lieut. and A. D. C, staff Gen. Rodes, C. S. A, 61–62; capt, maj, lieut. col. of artillery and supt, C. S. Ordnance Laboratories, 62–65; prof. chem, Med. Dept, Louisiana, 65–68; Virginia, 68–83; prof. chem. and chairman of the Faculty, Texas, 83–84; *prof. chem,* Jefferson Med. Col, Phila, 84–85; *Virginia, 85–* Judge, Bur. Awards, Centennial Expos, 76; lecturer, Hopkins, 77, 78; mem. U. S. Assay Commission, 86, 88, 96; ed, 'Zeitschrift Anorg. Chem,' 92– LL.D, William and Mary and Mississippi, 72; Princeton, 96; Hopkins, 02. M.A.A; Chem. Soc. (pres, 82); Am. Acad; Philos. Soc; cor. mem. N. Y. Acad; Wash. Acad; hon. mem. Med. and Chirurg. Faculty of Md; hon. mem. Soc. Mex. de Hist. Nat; Soc. Cient. Ant. Alz; fel. Royal Soc; fel. London Chem. Soc. (v. pres, 88–90); Chem. Gesell; Soc. chim. de Paris. General and applied chemistry and chemical mineralogy; atomic masses of lithium, aluminum and gold; density of solid mercury; molecular weight of hydrofluoric acid; methods for determination of organic matter in potable water; new meteorites; occurrence of silver in volcanic ash from South American volcanoes; structure and absorption spectrum of gold leaf.

Mallory, Dr. F(rank) B(urr), Harvard Medical School, Boston, Mass. **Pathology.* Cleveland, O, Nov. 12, 62. A.B, Harvard, 86, A.M, M.D, 90, fellow (Prague and Freiburg), 93–94. Asst. histol, *Harvard Med. Sch,* 90–91, *path,* 91–93, instr, 94-96, asst. prof, 96–01, *assoc. prof, 01–* First asst. visiting pathologist, Boston City Hosp; pathologist, Children's Hosp. Ass. Path. and Bact; Am. Physicians; Am. Med. Ass; Social Sci. Ass; Mass. Med. Soc; Boston Soc. Med. Sci; Boston Soc. Med. Improv; Path. Gesell. Actinomycosis; typhoid fever; epidemic cerebrospinal meningitis; diphtheria; necroses of the liver; differential staining methods for neuroglia and connective tissue fibers; new fibrillar intercellular substance in connective tissue; scarlet fever; classification of tumors.

Maltbie, Prof. W(illia)m H(enry), The Woman's College, Baltimore, Md. *Mathematics.* Toledo, O, Aug. 26, 67. A.B, Ohio Wesleyan, 90, A.M, 92; Ph.D, Hopkins, 95. Prof. math, Hedding, 90–91; instr. physics and math, *Woman's Col. of Baltimore,* 95, assoc. prof. *math,* 95–99, *prof,* 99– Math. Soc.

Maltby, Dr. Margaret E(liza), 3609 Broadway, New York, N. Y. **Physics, Physical chemistry.* Bristolville, O, Dec. 10, 60. A.B, Oberlin, 82, A.M, 91; B.S, Mass. Inst. Tech, 91, fellow, 93–95; Ph.D, Göttingen, 95; Ass. Col. Alumnae fellow, 95–96; Clark, 99–00. Instr. physics, Wellesley, 89–93, in charge, Dept. Physics, 96; instr. physics and math, Lake Erie, 97–98; asst. to pres, Physik. Tech. Reichsanstalt, Charlottenburg, 98–99; instr. chem, *Barnard, Columbia,* 00–03, *adj. prof. physics, 03–* F.A.A; Physical Soc. Electricity; measurement of high electrolytic resistances; measurement of periods of rapid electrical oscillations; conductivity of very dilute solutions of certain salts.—Method for producing very rapid electrical oscillations.

Manchester, Prof. J(ames) E(ugene), 501 15th Ave, S. E, Minneapolis, Minn. *Mathematics.* Pitcairn, N. Y, Aug. 16, 55. B.S, Minnesota, 84; Michigan, 93–94; Göttingen, Heidelberg and Leipzig, 94–99; Sc.D, Tübingen, 99. Supt. schools, Blue Earth City, Minn, 84–90; Alexandria, Minn, 90–93; prof. math, Vincennes, 99–04, pres, 01–04; *prof. math, Minnesota, 04–* Math. Soc; Ind. Acad. Singularities of plane curves.

Mandel, Prof. John A(lfred), 338 E. 26th St, New York, N. Y. *Physiological chemistry.* Stockholm, Sweden, Oct. 18, 65. Berlin; Sc.D, N. Y. Univ, 01. Adj. prof. *chem. and physiol. chem, Univ. and Bellevue Hosp. Med. Col,* 97–98, *prof, 98–* Asst. prof. chem. and physics, Col. City of N. Y, 98–99. Physiol. Soc; Soc. Physiol. Chem; Chem. Soc; assoc. fel. N. Y. Acad. Med; Chem. Gesell. Origin of glycuronic acid in the animal body.—Nucleic acid and glucothionic acid of the mammary glands.

Mandlebaum, Dr. F(rederick) S(amuel), 1300 Madison Ave, New York, N. Y. *Medicine.* Hartford, Conn, Jan. 18, 67. M.D, Bellevue Hosp. Med. Col, 89; Vienna and Berlin, 91–93. Asst. pathologist, *Mt. Sinai Hosp, N. Y,* 93–95, *pathologist, 95–* Lecturer internal med, N. Y. Polyclinic, 93–94; visiting physician, Chapin Home, N. Y, 95–01. Ass. Path. and Bact; Am. Med. Ass; N. Y. Acad. Med; N. Y. Path. Soc. General pathology; embryology; bacteriology.—Various pathological problems; embryology of the urogenital system.

Mann, Prof. C(harles) R(iborg), University of Chicago, Chicago, Ills. **Physics.* Orange, N. J, July 12, 69. A.B, Columbia, 90, fellow, 90–92, A.M, 91, John Tyndall fellow, 92–95; Ph.D, Berlin, 95. Instr. *physics, Chicago,* 96–02, *asst. prof, 02–* Math. Soc; Physical Soc. Induced magnetism; optics; history of science.

Manning, Cha(rle)s H(enry), 1838 N. Elm St, Manchester, N. H. *Mechanical engineering.* Baltimore, Md, June 9, 44. B.S, Harvard, 62. Eng. Corps, U. S. N, 63–84, retired, 84; instr, U. S. Naval Acad, 70–75, 77–80; *supt, Amoskeag Mfg. Co, 82–* Eng. corps during Spanish-Am. War. M.A.A; Mech. Eng; Naval Eng; Naval Inst; Naval Archit. and Marine Eng; Mil. Order Loyal Legion; Franklin Inst. Heat and designing of machinery; safety of fly-wheels; boiler design.

Manning, Dr. George L(incoln), Cornell Heights, Ithaca, N. Y. *Experimental physics.* Fitchburg, Mass, April 13, 65. M.E, Stevens, 91; Ph.D, Berlin, 00. Instr. math, Adelphi, 91–92; physics and chem, Stevens, 92–93, asst. prof, 93–97; asst. *physics,* Cornell, 02; prof, Robert Col, Constantinople, 02–04; instr, Cornell, 05; *prof, Robert Col, Constantinople, 05–*

Manning, Prof. Henry P(arker), Brown University, Providence, R. I. **Mathematics.* Woodstock, Conn, Oct. 3, 59. A.B, Brown, 83, A.M, 86; fellow, Hopkins, 90–91, Ph.D, 91. Teacher, 83–89; instr. math, *Brown,* 91–95, *asst. prof. pure math, 95–* Math. Soc. Theory of functions.—Geometry of four dimensions.

Manning, Dr. W(illiam) A(lbert), Salem, Ore. *Mathematics.* Salem, Dec. 5, 76. A.B, Willamette, 00; A.M, Stanford, 02, Ph.D, 04; Paris, 04– Asst. math, Stanford, 00–02, instr. applied math, 02–04. Math. Soc. Substitution groups. —Line complexes.

Mansfield, Albert K(ing), Batavia, Ills. *Mechanical engineering.* Newburyport, Mass, March 25, 49. Mass. Inst. Tech, 70–73; Polytech, Munich, 73. Gen. foreman, Car Dept, P. C. C. and St. Louis R. R, 79–83; supt. motive power, N. Y. and N. E. R. R, 83–84; mech. manager, Buckeye Engine Co, 88–02; *consulting engineer, U. S. Wind Eng. and Pump Co, 02–* M.A.A; Mech. Eng. Governors; wheel arms; teeth of gears; valve gear; shaft governors.

Manson, Dr. Marsden, 2010 Gough St, San Francisco, Cal. *Geology, Climatology.* Leewood, Va, Feb. 14, 50. Grad, Va. Mil. Inst, 70, C.E, 77; Ph.D, California, 93. Asst. prof. physics and chem, Va. Mil. Inst, 75–77; asst. engineer, Cal. State Eng. Dept, 78–80; U. S. Eng. Dept, 80–82; chief engineer, Board of Harbor Commission, San Francisco, 83–92; consulting engineer, Commission Pub. Works, Cal, 93–94; pres, Dept. Highways, 95–99; mem. Board Pub. Works, San Francisco, 00–04. M.A.A; Civil Eng; Pacific Coast Tech. Soc; Cal. Acad; fel. Royal Geog. Soc; Gt. Britain Glacialists Ass. Dynamic and glacial geology; climatology. —Evolution of climates.

Marbut, Prof. C(urtis) F(letcher), Columbia, Mo. *Geology.* Lawrence Co, Mo, July 19, 63. B.S, Missouri, 89; A.M, Harvard, 94. Asst. geologist, Mo. Geol. Surv, 90–95; instr. *geol, Missouri,* 95–97, asst. prof, 97–99, *prof, 99–* Geol. Soc; Geog. Ass; Nat. Geog. Soc. Physical geography and geology of Missouri.

Marcy, Dr. Henry O(rlando), 180 Commonwealth Ave, Boston, Mass. *Surgery, Sanitary science.* Otis, Mass, June 23, 37. A.M, Amherst; M.D, Harvard, 63; Berlin, London and Edinburgh, 69–70. Surgeon, U. S. A, 63; med. director, Fla, 64–65; practising physician, 65–69; *surgeon, Cambridge Hosp. for Women, 80–* LL.D, Wesleyan, 87. Ninth Int. Med. Cong. (pres, Sect. Gynec.). Am. Med. Ass. (past pres.); Am. Acad. Med. (past pres.); Mass. Med. Soc; Boston Gynec. Soc; British Med. Ass; cor. mem. Bologna Medico-Chirurg. Soc. Bacteriology; surgery.

Mark, Supt. E(dgar) H(uston), Center and Walnut Streets, Louisville, Ky. *Physics.* Fayette Co, O, Nov. 13, 52. Ohio State, 83–87; M.D, Ky. Sch. Med. Asst. instr. physics, Ohio State, 85–86; teacher, Male High Sch, *Louisville,* 87–94, *supt. pub. schools, 94–* F.A.A; Nat. Geog. Soc.

Mark, Dr. E(dward) L(aurens), 109 Irving St, Cambridge, Mass. **Zoology.* Hamlet, N. Y, May 30, 47. A.B, Michigan, 71; Ph.D, Leipzig, 76. Instr. math, Michigan, 71–72; asst. astronomer, Northern Boundary Surv, 72–73; instr. zool, *Harvard,* 77–83, asst. prof, 83–86, *prof. anat, 85–, director, Zool. Lab, 00–, Bermuda Biol. Sta, 03–* Ed, 'Contrib. Zool. Lab,' Harvard, 83– LL.D, Michigan, 96; Wisconsin, 04. Nat. Acad; F.A.A. (v. pres, 02, 04); Soc. Nat. (pres, 04); Soc. Zool. (pres, 96); Ass. Anat; fel. Am. Acad. (chairman, Pub. Committee, 02–); corp. mem. Boston Soc. Nat. Hist; fel. London Soc. Biol. Chem; life mem. Anat. Gesell. Anatomy and histology of arthropods; maturation, fertilization, etc, of mollusks; trichinae in swine; development of Lepidosteus.—Embryology of Lepidosteus; cytology in heredity.

Mark, Dr. Kenneth L(amartine), 109 Irving St, Cambridge, Mass. *Physical chemistry.* Leipzig, Germany, Aug. 27, 74. A.B, Harvard, 98, A.M, 00, Ph.D, 03. Asst. chem, Harvard, 97, 99–03; instr, Simmons (Mass.), 03–04. Chem. Soc. Expansion of gases by heat.

Markley, Prof. Joseph L(ybrand), 1320 S. University Ave, Ann Arbor, Mich. *Mathematics.* East Nantmeal, Pa, Oct. 6, 59. A.B, Haverford, 85, A.M, 86; Morgan fellow, Harvard, 87–89, Ph.D, 89; Göttingen, 95–97. Instr. *math,* Harvard, 89–90; *Michigan,* 90–95, asst. prof, 95–04, *junior prof, 04–* Math. Soc. (asst. ed, 'Bul,' 98–99). Bessel's functions.—Theory of functions.

Marks, Prof. L(ionel) S(imeon), Harvard University, Cambridge, Mass. *Mechanical engineering.* Birmingham, England, Sept. 8, 71. Diploma in eng, Mason Col, England, 91; B.S, London, 92; M.M.E, Cornell, 94. Instr. *mech. eng, Harvard,* 94–00, *asst. prof, 00–* Mech. Eng. Heat engines.—Properties of superheated steam; losses in gas engines; the impact of steam jets.

Marks, L(ouis) B, 1 E. 94th St, New York, N. Y. *Electrical engineering.* New York, Jan. 25, 69. Col. City of N. Y, 83–88; B.S, Cornell, 88, M.E, 89, M.M.E, 90. Expert and manager, Washington Carbon Co, Pa, 90–93; *expert electrical engineer, 93–* M.A.A; Elec. Eng; Soc. Int. des Elec. Electric light carbons; invention and development of the enclosed arc lamp.—Electric lighting and photometry.

Marks, W(illia)m D(ennis), The Art Club, Philadelphia, Pa. *Engineering.* St. Louis, Mo, Feb. 26, 49. B.S, Yale, 70, C.E, 71. Inspector, Laclede Gas Works, 72–73; practising mech. engineer, 73–75; instr. mech. eng, Lehigh, 75–76; prof, Pennsylvania, 76–87; engineer, Edison Co, Phila, 87–91, pres, 91–96; Am. Meter Co, 96–01; *consulting engineer and statistician, 05–* M.A.A; Elec. Eng; Philos. Soc; hon. mem. Franklin Inst. Steam, electrical and gas engineering.

Marlatt, C(harles) L(ester), 1440 Massachusetts Ave, N. W, Washington, D. C. **Entomology.* Atchison, Kas, Sept. 26, 63. B.S, Kas. State Agr. Col, 84, M.S, 86. Asst. entom, Kas. State Agr. Col, 87–88; asst. entomologist, *U. S. Dept. Agr,* 89–94, *first asst. and asst. chief entomologist, 94–* F.A.A. (sec'y, F, 99); Ass. Econ. Entom. (sec'y, 3 years, pres, 99); Wash. Entom. Soc. (sec'y, many years, pres, 97–98); Wash. Acad; Wash. Biol. Soc; Kas. Acad. Nematinae; periodical Cicada; orange, wheat and grape insects; insecticides; Coccidae.—Revision of Coccidae; collections in China, Japan and other eastern countries; introduction of foreign beneficial insects.

Marsh, Prof. C(harles) Dwight, Earlham College, Earlham, Ind. *Zoology.* Hadley, Mass, Dec. 20, 55. A.B, Amherst, 77, A.M, 80; Ph.D, Chicago. Teacher, high schools, 78–83; prof. chem. and biol, Ripon, 83–89, biol, 89–03, dean, 00–03; *prof. biol, Earlham, 02–* Mem. and sec'y, Board Commissioners, and biologist for Wis. Nat. Hist. Surv, 97–99. F.A.A; Soc. Nat; Wis. Acad. (pres, 96–99). Plankton; copepods.—Plankton; copepods.

Marsh, M(illard) C(aleb), Bureau of Fisheries, Washington, D. C. *Biology.* Groton, N. Y, Dec. 23, 72. B.S, Cornell, 97. *Asst, U. S. Fish Commission, 97–* M.A.A; Soc. Bact; Wash. Biol. Soc; Wash. Biol. Field Club. Systematic ichthyology; bacteriology; diseases of fishes.—Fish disease.

Marshall, Prof. Charles E(dward), Agricultural College, Mich. *Bacteriology, Hygiene.* Port Clinton, O, Oct. 6, 66. Ph.B, Michigan, 96; Jörgensen's Lab, Copenhagen, 98; Ph.D, Michigan, 02; Pasteur Inst. and Osterlag's Lab, 03. Asst. bacter, Michigan, 93–96; *bacteriologist, Exp. Sta, Mich. Agr. Col, 96–, prof. bacter. and hygiene, 02–* Soc. Bact; Pub. Health Ass; Mich. Acad. (sec'y); Chem. Gesell. Dairy bacteriology; tuberculosis; aeration of milk; care and handling of milk; hygiene.—Associative action of bacteria in milk; epidemics among swine in Michigan.

Marshall, Dr. Harry T(aylor), 5 W. Chase St, Baltimore, Md. *Medicine.* Baltimore, May 19, 75. A.B, Hopkins, 94, M.D, 98, fellow, 99;

fellow, Rockefeller Inst. for Med. Research, 01–02. Asst. path, *Hopkins*, 01–03, *instr. med, 03–* Ass. Path. and Bact; Am. Med. Ass. Cytolysis; immunity.—Immunity of bacteria; locoweed disease of live stock.

Marshall, Dr. Henry Rutgers, Century Association, 7 W. 43d St, New York, N. Y. **Psychology, Esthetics, Philosophy.* New York, July 22, 52. A.B, Columbia, 73, A.M, 75. *Architect, 78–* Lecturer, Columbia, 94, 04; Yale, 99; mem. Jury of Awards, Buffalo Expos, 01; Art Commission, N. Y, 02– L.H.D, Rutgers, 03. Soc. Nat; Psychol. Ass; Philos. Ass; fel. Inst. Archit. (pres, N. Y. Chapter, 02). Psychology; esthetics.

Marshall, Prof. John, 1718 Pine St, Philadelphia, Pa. **Chemistry.* Reading, Pa, Feb. 9, 55. Pennsylvania Col, 73–75; M.D, Pennsylvania, 78; Göttingen, 79; Nat. Sc.D, Tübingen, 82; Christiania, 86. Asst. demonstrator practical chem, *Med. Dept, Pennsylvania*, 78–79, demonstrator, 79–89, asst. prof, 89–97, *prof. chem. and toxicol, 97–* Dean, Faculty of Vet. Med, Pennsylvania, 89–97, Faculty of Med, 92–02. LL.D, Pennsylvania Col, 99. Physiol. Soc; Chem. Soc. (mem. Council); Philos. Soc; fel. Phila. Col. Physicians. Hemoglobin and other physiologic chemical subjects.—Products of destructive distillation of Indian opium as prepared and smoked by Chinese.

Marshall, Prof. W(illiam) C(rosby), Yale University, New Haven, Conn. *Descriptive geometry, Drawing, Engineering.* Avon, Conn, Sept. 21, 70. Ph.B, Yale, 90, M.E, 94, C.E, 00. Civil engineer, Berlin Iron Bridge Co, 90–93; asst. mech. and civil eng, *Yale*, 94–96, instr. *drawing and descrip. geom*, 96–02, *asst. prof, 02–* Junior mem. Mech. Eng. Mechanical and civil engineering; naval architecture.

Marshall, Prof. W(illia)m S(tanley), 116 E. Gorham St, Madison, Wis. *Zoology.* Milwaukee, Wis, Dec. 14, 66. B.S, Swarthmore, 88; Pennsylvania, 88–89; Ph.D, Leipzig, 92. Instr. biol, *Wisconsin*, 93–98, *asst. prof. zool, 98–* Invertebrate zoology.

Marsters, Prof. V(ernon) F(reeman), Lima, Peru, S. A. *Geology, Geography.* A.B, Acadia, 86; Cornell, 88–89; A.M, Harvard, 98; Columbia, 03–05. Instr. geol, Cornell, 89–91; prof. geol. and geog, Indiana, 91–03; *geologist, Republic of Peru, 05–* M.A.A; Geol. Soc; Nat. Geog. Soc; Ind. Acad; Boston Soc. Nat. Hist. Glacial geology and geography of Indiana.

Marston, Prof. A(nson), Ames, Ia. *Civil engineering.* Winnebago, Ills, May 31, 64. Berea, 84; C.E, Cornell, 89. Railroad and bridge engineer, 89–92; *prof. civil eng, Iowa State, 92–, col. engineer, 98–, dean, Eng. Div, 04–* Civil Eng; Eng. Educ; Western Soc. Civil Eng; Iowa Eng. Soc; Iowa Acad. Study of stresses by polarized light; tests of brick and stone; fire streams; sewage purification; water-towers.—Sewage purification; tests of Iowa brick and gypsum; statistics of public roads and water works.

Martin, Dr. Artemas, 1535 Columbia St, N. W, Washington, D.C. *Mathematics.* Steuben Co, N. Y, Aug. 3, 35. Pub. schools; Franklin Acad, Pa. *Computer, U. S. Coast and Geod. Surv, 85–* Math. ed, 'Normal Monthly,' 75–76; ed. and publisher, 'Math. Visitor,' 77–; 'Math. Magazine,' 82– Hon. A.M, Yale, 77; Ph.D, Rutgers, 82; LL.D, Hillsdale, 85. F.A.A; Math. Soc; Nat. Geog. Soc; Nat. Educ. Ass; Wash. Philos. Soc; British Math. Ass; London Math. Soc; Edinburgh Math. Soc; Soc. math. de France; Math. Verein; Circolo Mat. di Palermo. Properties of numbers and of triangles; diophantine analysis; average; probability; elliptic integrals; logarithms.

Martin, Dr. C(harles) F(erdinand), 33 Durocher St, Montreal, Can. *Medicine.* Montreal, Oct. 14, 68. A.B, McGill, 88, M.D, C.M, 92; Göttingen, 93; Prague and Paris, 94. Res. physician, Montreal Gen. Hosp, 92–93; demonstrator path, *McGill*, 94–96, lecturer, 97–98, lecturer med, 98–99, *asst. prof. med. and clin. med, 99–* Asst. physician, Royal Victoria Hosp, Montreal; consulting physician, Montreal Baby and Foundling Hosp. Am. Physicians; Ass. Path. and Bact; Pediat. Soc. Value of tuberculin; Hodgkin's disease and leukemia; sarcomatosis; congenital dilatation of the large intestine.—Condition of the urine in infants; diseases of the stomach.

Martin, Prof. D(aniel) S(trobel), 756 Quincy St, Brooklyn, N. Y. *Geology, Mineralogy.* New York, N. Y, June 30, 42. A.B, N. Y. Univ, 63, A.M, 66. *Prof. geol*, Rutgers Female Col, N. Y. City, 68–95; *Col. for Women, Columbia, S. C, 98–* Lecturer geol, Cooper Union. Hon. Ph.D, Regents Univ. State of N. Y. F.A.A; N. Y. Acad. (v. pres, 83, ed, 78–91); N. Y. Miner. Club.

Martin, Miss Emilie N(orton), South Hadley, Mass. *Mathematics.* Elizabeth, N. J, Dec. 30, 69. A.B, Bryn Mawr, 94, fellow, 95–96, Mary E. Garrett fellow (Göttingen), 97–98, Ph.D, 01. Teacher *math*, Mrs. Head's Sch, Germantown, Pa, 00–02; *instr, Mt, Holyoke, 03–* Private tutor math. and Latin, 99–02; collaborator, 'Revue Semestrielle des Pub. Math,' 99–02. Math. Soc. Imprimitive substitution groups of degree fifteen and the primitive substitution groups of degree eighteen.

Martin, Dr. E(rnest) G(ale), 220 Waldron St, W. La Fayette, Ind. *Physiology.* Minneapolis, Minn, Nov. 16, 76. Ph.B, Hamline, 97; fellow, Hopkins, 02–03, Ph.D, 04. Asst. biol, Hamline, 94–95; physiol, Hopkins, 03–04; *instr. anat. and physiol, Purdue, 04–* Asst. chem, Chautauqua Summer Col, 97–98. The rhythmic activity of heart tissue; the inhibitory influence of potassium on the heart.—The influence of certain ions on oxygen absorption in heart tissue.

Martin, Prof. F(ernando) W(ood), College Park, Va. *Chemistry.* Volga, W. Va, May 5, 63. B.S, Ills. Wesleyan, 86; Ph.D, Syracuse, 93; Leipzig, 97–98. *Prof.* nat. science, Chaddock, 86–90; Fort Worth, 90–92; *chem. and*

geol, Randolph-Macon, 93– F.A.A; Chem. Soc. The garnet group of silicates.—Henry's law of gas absorption.

Martin, Dr. G(eorge) C(urtis), U. S. Geological Survey, Washington, D. C. *Geology.* Cheshire, Mass, July 18, 75. B.S, Cornell, 98; Ph.D, Hopkins, 01. Special asst. paleont, Acad. Nat. Sciences, Phila, 97; asst. geologist, Md. Geol. Surv, 98–01, geologist, 01–04; asst. paleont, Hopkins, 01–04, instr, 03–04; *asst. geologist, U. S. Geol. Surv, 04–* F.A.A; Geol. Soc; Wash. Geol. Soc. Tertiary paleontology.—Stratigraphy and economic geology of the Appalachian region; stratigraphy, petroleum and coal of the Pacific Coast of Alaska.

Martin, Dr. Geo(rge) W, 1804 Grand Ave, Nashville, Tenn. *Biology.* Lagro, Ind, Jan. 23, 63. B.S, Wabash, 87, grad. student, 90–91; Ph.D, Indiana, 92; Woods Hole, 93, 94, 95; Cornell, summer, 02. Principal, High Sch, Bluffton, Ind, 87–88; Monticello, Ind, 88–90; asst. biol, Indiana, 90–91; *prof.* biol. and geol, High Sch, Indianapolis, 92–99; *biol, Vanderbilt, 99–; state entomologist, Tenn, 01–* M.A.A; Ass. Econ. Entom; Tenn. Hort. Soc. (sec'y and treas.); Wash. Entom. Club. Organology and embryology of Aster and Solidago; morphology and cytology of the Algae; biology in secondary schools.

Martin, Prof. Lillien J(ane), Stanford University, Cal. *Psychology.* Olean, N. Y. A.B, Vassar, 80; Göttingen, 94–98. Teacher science, High Sch, Indianapolis, 80–89; v. principal and head, Dept. Science, Girls' High Sch, San Francisco, 89–94; *asst. prof. psychol, Stanford, 99–* Soc. Nat; Psychol. Ass; Nat. Educ. Ass. Zur Analyse der Unterschiedsempfindlichkeit; psychology of esthetics.

Martin, Louis A(dolphe), Jr, 824 Bloomfield St, Hoboken, N. J. *Mathematical physics.* Hoboken, Nov. 5, 80. M.E, Stevens, 00; A.M, Columbia, 03. *Instr.* math, physics and chem, Hoboken Acad, 00–02; *math. and mech, Stevens, 03–* Instr. applied elec, Cooper Union, 00–01; exp. mech, Stevens, 00, 02; lecturer physics, Mechanics' Inst, N. Y, 01–02. M.A.A; Math. Soc.

Martin, Thomas Commerford, 114 Liberty St, New York, N. Y. *Electrical engineering.* London, England, July 22, 56. Private schools and tutor. Asst, Edison Lab, 77–79; *ed, 'Electrical World and Engineer,' 82–* Special expert agent, U. S. Census, 00– Elec. Eng. (past pres.); N. Y. Elec. Soc. (past pres.); fel. N. Y. Acad; Franklin Inst; British Inst. Elec. Eng; Gt. Britain Iron and Steel Inst. History and statistics of electrical engineering and science.

Martin, Dr. Walton, 25 W. 50th St, New York, N. Y. *Anatomy, Surgery.* Staten Island, N. Y, Feb. 4, 69. Ph.B, Yale, 89; M.D, Columbia, 92. Demonstrator anat, *Columbia,* 97–02, *instr. surg, 01–* Asst. attending surgeon, Roosevelt Hosp. Ass. Anat. Anatomy.

Marvin, Prof. Cha(rle)s F(rederick), 1404 Binney St, N. W, Washington, D. C. **Physics, Meteorology, Mechanical engineering.* Putnam O, Oct. 7, 58. M.E, Ohio State, 83. Instr, Physical and Mech. Laboratories, Ohio State, 78–83; *prof. meteorol, U. S. Weather Bur, 91–* Assoc. prof. meteorol, Columbian, 94–02; mem. Jury of Awards, Tenn. Expos, 97. Medals, Columbian Expos, 93; Omaha, 98; Paris, 00. F.A.A; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc; Berlin Verein zur Förderung der Luftschiffahrt. Constants of psychrometric formula; the Robinson anemometer; use of kites for upper air explorations.—Anemometry; aerial explorations; solar radiation.

Marvin, Prof. F(rank) O(lin), 1603 Massachusetts St, Lawrence, Kas. *Civil engineering.* Alfred Center, N. Y, May 27, 52. A.B, Allegheny, 71, A.M, 74. Principal, High Sch, Lawrence, Kas, 76–78; instr. math. and physics, *Kansas,* 75, 79–83, *prof. civil eng, 83–, dean, Sch. of Eng, 91–* Engineer, Kas. State Board of Health, 95– F.A.A. (v. pres, 96); Civil Eng; Eng. Educ. (pres, 01); Kas. Acad. Resistance of materials.

Marvin, Prof. Walter T(aylor), Princeton University, Princeton, N. J. *Philosophy.* New York, N. Y, April 28, 72. Col. City of N. Y, 86–88; A.B, Columbia, 93; Jena, 93–94; Gen. Theol. Sem, 94–95; Columbia, 95–97; Halle, 97; Ph.D, Bonn, 98. Asst. *philos,* Columbia, 98–99; instr, Western Reserve, 99–02, asst. prof, 03–05; *preceptor, Princeton, 05–* Philos. Ass; Psychol. Ass. Epistemology.

Marx, Prof. Cha(rle)s D(avid), Stanford University, Cal. *Civil engineering.* Toledo, O, Oct. 10, 57. Real-Gymnasium, Karlsruhe, 76; C.E, Cornell, 78; Polytech, Karlsruhe, 81. Instr. civil eng, Polytech, Karlsruhe, 81; leveler, transitman and draftsman, B. H. T. and W. R. R, 81–82; U. S. asst. engineer, Mo. River Improv, 82–83; Miss. River Improv, 83–84; asst. prof. *civil eng,* Cornell, 84–90; *prof,* Wisconsin, 90–91; *Stanford, 91–* Chief inspector pub. improvements, Rochester, N. Y; principal asst. engineer, East Side Trunk Sewer, Rochester, N. Y; consulting engineer, various companies; in charge irrig. investigations, Salinas Valley. Civil Eng; Eng. Educ; Western Soc. Eng; Pacific Coast Tech. Soc; Wis. Acad. Hydraulics.

Maschke, Prof. H(einrich), 5533 Lexington Ave, Chicago, Ills. **Mathematics.* Breslau, Germany, Oct. 24, 53. Heidelberg, Göttingen, Breslau and Berlin, 72–80; Ph.D, Göttingen, 80. Prof. *math,* Luisenstädt Gymnasium, Berlin, 80–90; asst. prof, *Chicago,* 92–96, *assoc. prof, 96–* Elec. engineer, Weston Elec. Co, Newark, N. J, 90–92. Math. Soc; Math. Verein. Linear substitution groups; differential geometry; theory of quadratic differential quantics.—Theory of invariants of quadratic differential quantics.

Mason, Dr. A(mos) Lawrence, 265 Clarendon St, Boston, Mass. *Medicine.* Salem, Mass, April 20, 42. A.B, Harvard, 63, M.D, 72. *Physician, Boston City Hosp, 78–;* instr. and asst. prof. clin. med, Harvard Med. Sch, 87–93, assoc. prof,

93–98. M.A.A; Am. Physicians; Mass. Med. Soc; Boston Soc. Med. Improv. (pres, 96–97); Suffolk Dist. (Mass.) Med. Soc. (pres, 97). Clinical medicine.

Mason, Dr. Max, Yale University, New Haven, Conn. *Mathematics.* Madison, Wis, Oct. 26, 77. B.L, Wisconsin, 98; Ph.D, Göttingen, 03. Instr. *math,* Mass. Inst. Tech, 03–04; *asst. prof, Sheffield Sci. Sch, Yale, 05–* Math. Soc; Math. Verein. Differential equations; calculus of variations.

Mason, Dr. O(tis) T(ufton), 1719 De Sales St, N. W, Washington, D. C. **Ethnology.* Eastport, Me, April 10, 38. A.B, Columbian, 61, A.M, 62, Ph.D, 75. Principal, Prep. Sch, Columbian, 62–84; curator, *Div. Ethnol, U. S. Nat. Mus,* 84–05, *head curator, Dept. Anthrop, 05–* Ed. anthrop. papers, Smithsonian Inst, 74–84; 'Harper's Annual Record'; 'Am. Naturalist.' LL.D, Columbian, 97. F.A.A. (sec'y, Subsect. Anthrop, 76, sec'y, H, 82, v. pres, 83); Antiq. Soc; Philos. Soc; Soc. North. Antiq; Wash. Anthrop. Soc; St. Louis Acad; Anthrop. Inst. of Gt. Britain and Ireland; Soc. d'Anthrop. de Paris; Berlin Anthrop. Gesell. The technology of ethnology; zootechny; primitive textile art; travel and transportation.

Mason, Prof. William P(itt), Troy, N. Y. **Chemistry.* New York, N. Y, Oct. 12, 53. C.E, Rensselaer, 74, B.S, 77; M.D, Albany Med. Col, 81; Pasteur Inst, Paris, 95. Asst. chem, *Rensselaer,* 75–82, anal. chem, 82–93, *prof. chem, 93–* Mem. U. S. Assay Commission, 96. F.A.A. (sec'y, C, 95, v. pres, 97); Chem. Soc; Philos. Soc; Franklin Inst; Pub. Health Ass; Am. Water Works Ass; New Eng. Water Works Ass; Wash. Acad; Royal Sanit. Inst. Potable water; water for city supply; purification of water.

Mathews, Prof. A(lbert) P(rescott), 454 E. 60th St, Chicago, Ills. **Physiological chemistry.* Chicago, Nov. 26, 71. B.S, Mass. Inst. Tech, 92; Ph.D, Columbia, 98; Cambridge, 95; Marburg, 95–97. Asst. biol, Mass. Inst. Tech, 92–93; asst. physiol, Harvard Med. Sch, 98–99; instr, Tufts Med. Sch, 98–99, asst. prof, 99–00; instr, Harvard, 00–01; asst. prof. *physiol. chem, Chicago,* 01–03, assoc. prof, 04–05, *prof, 05–* Head, Dept. Physiol, Woods Hole, 04– Soc. Nat; Physiol. Soc; Chem. Soc; Soc. Exp. Biol. and Med. Morphology of fertilization process; physiology of secretion; chemistry of spermatozoa; chemical relations of nerves; relation between potential of ions and pharmacological action; nature of toxic and antitoxic action.—The nature of stimulation in nerves; changes in protoplasm by mechanical shock; protoplasmic respiration.

Mathews, Prof. Clarence W(entworth), 660 S. Limestone St, Lexington, Ky. *Horticulture, Botany.* Lawrence, Mass, Feb. 10, 61. B.S, Cornell, 91, fellow, 91. *Prof. hort. and bot, Ky. State, and horticulturist, Ky. Agr. Exp. Sta, 92–* Horticulture.

Mathews, Prof. Edward B(ennett), 1410 Linden Ave, Baltimore, Md. *Mineralogy, Petrography.* Portland, Me, Aug. 16, 69. A.B, Colby, 91; fellow, Hopkins, 93–94, Ph.D, 94. Instr. *miner. and petrog, Hopkins,* 94–95, assoc, 95–99, assoc. prof, 99–04, *prof, 04–* Field asst, U. S. Geol. Surv, 91–94; asst. state geologist, Md, 98– Geol. Soc; Wash. Geol. Soc. Igneous and metamorphic rocks, especially of the Piedmont Plateau in Maryland.—Crystalline rocks of northern and central Maryland.

Mathews, Dr. John A(lexander), Crucible Steel Company of America, Syracuse, N. Y. **Chemistry, Metallurgy.* Washington, Pa, May 20, 72. B.S, Washington and Jefferson, 93; A.M, Columbia, 95; M.S, Washington and Jefferson, 96; fellow, Columbia, 97–98, Ph.D, 98, Barnard fellow, 00–03 (Royal Sch. of Mines, London, 00–01); Carnegie research scholar, Iron and Steel Inst. of Great Britain, 01–02. Instr. chem, Columbia, 96–97, 98–00; *metallurgist, Exp. Dept, Crucible Steel Co. of Am, 02–, asst. manager, Sanderson Works, 05–* Mem. U. S. Assay Commission, 00, 05. Andrew Carnegie gold medal for research, London, 02; hon. Sc.D, Washington and Jefferson, 03. F.A.A; Chem. Soc; Soc. Chem. Indust; Soc. Testing Materials; Int. Ass. Testing Materials. Alloys, their microscopic, electrical, mechanical and chemical properties; steel and steel alloys.—Magnetic properties, electrical conductivity and hardness of steel alloys and changes therein by heat treatment.

Mathews, Dr. W(illia)m P(hillip), 605 E. Grace St, Richmond, Va. *Anatomy, Surgery.* Prince Edward Co, Va, June 30, 68. A.B, Richmond, 88; M.D, Med. Col. of Va, 90. Adj. prof. surg, *Med. Col. of Va,* 91–93, demonstrator *anat,* 92–95, *prof, 95–,* lecturer *orthop. surg,* 98–05, *prof, 05–* Acting prof. surg, Med. Col. of Va, 92–93; orthop. surgeon, Old Dominion Mem. Hosp, 98–; pres, Board of Health, Manchester, 01. Am. Med. Ass; S. Surg. and Gynec. Soc; Va. Med. Soc; Chesterfield Co. (Va.) Med. Soc. Deformities.

Matthes, Francois E(mile), U. S. Geological Survey, Washington, D. C. *Physiography.* Amsterdam, Holland, March 16, 74. B.S, Mass. Inst. Tech, 95; Austin teaching fellow, Harvard, 04–05. Draftsman, city engineer's office, Rutland, Vt, 95–96; field asst, *U. S. Geol. Surv,* 96–98, asst. topographer, 98–99, *topographer, 99–* M.A.A; Geog. Ass; Nat. Geog. Soc; assoc. mem. Civil Eng; cor. mem. Appalachian Mt. Club; Wash. Geol. Soc; Wash. Entom. Soc. Physiography; glacial erosion.—Glacial erosion in the northern Rocky Mountains; cliff recession in the Grand Canyon of the Colorado; physiographic studies of Yosemite Valley region.

Matthew, Dr. G(eorge) F(rederic), 88 Summer St, St. John, N. B, Can. *Geology, Archeology.* St. John, Aug. 12, 37. A.M, New Brunswick, 78. Clerk of Treasury, N. B, 53–68; with Can. Geol. Surv, 68–94; *surveyor of customs, Can, 94–* Hon. Sc.D, Laval, 94; LL.D, New Brunswick, 97. Cor. mem. N. Y. Acad; fel. Can. Royal Soc; N. B. Nat. Hist. Soc; cor. mem. Montreal Nat.

Hist. Soc; London Geol. Soc; cor. mem. Soc. Royale Malacog. de Belgique. Geology; paleontology; paleobotany; Cambrian faunas; Paleozoic faunas and floras; surface geology.—Geology of St. John (N.B.) locality; Paleozoic insects.

Matthew, Dr. W(illiam) D(iller), American Museum of Natural History, New York, N. Y. *Paleontology.* St. John, N. B, Feb. 19, 71. A.B, New Brunswick, 89; Ph.B, Columbia, 93, A.M, 94, Ph.D, 95. Asst. paleont, *Am. Mus. Nat. Hist,* 95–98, asst. curator, 99–01, *assoc. curator, 02–* Field asst, Can. Geol. Surv, 89; N. Y. Geol. Surv, 93; U. S. Geol. Surv, 02. Geol. Soc; fel. N. Y. Acad; cor. mem. New Brunswick Nat. Hist. Soc. Tertiary Mammalia of western United States; paleovolcanic rocks.—Various Tertiary Mammalia.

Matthews, Prof. C(harles) P(hilo), 703 Owen St, Lafayette, Ind. **Electrical engineering.* Ft. Covington, N. Y, Sept. 18, 67. M.E, Cornell, 92, Ph.D, 01. With Rockford Elec. and Mfg. Co, Ills, 92; instr. physics, Cornell, 92–96; assoc. prof. *elec. eng, Purdue,* 96–04, *prof, 04–* Consulting engineer; Bur. Standards, summer, 02. Elec. Eng; Eng. Educ; Nat. Elec. Light Ass. Improved methods in photometry; photometry of artificial light sources.—Photometric values of arc lamps.

Matthews, Prof. J(oseph) Merritt, 425 S. Broad St, Philadelphia, Pa. *Chemistry.* Philadelphia, June 9, 74. B.S, Pennsylvania, 95, fellow, 96–98, Ph.D, 98. *Prof. chem. and dyeing, Sch. Indust. Art, 98–* Chem. Soc. (v. pres, 01); Soc. Chem. Indust; Franklin Inst; British Soc. Dyers and Colorists. Compounds of halides of rare earths with various amido bodies; indigo dyeing; textile chemistry; properties of indigo-red; mercerization of cotton; chemistry of wool fiber; etc.—Shade compounding with dyestuffs; chemistry of textile fibers.

Mattoon, Prof. A(rthur) M(artyn), P. O. Box 104, Parkville, Mo. *Mathematics, Astronomy.* Maxtown, O, Sept. 12, 55. A.B, Marietta, 80, A.M, 83. Instr. math, Col. Inst, Albany, Ore, 80–83; Col. of Montana, 83–87; principal, Acad, Bozeman, Mont, 87–89; instr. math, Blackburn, 89–90; principal, Acad, Elgin, Ills, 90–91; *prof. math. and astron, and director, Scott Observatory, Park, 92–* M.A.A; Pacific Astron. Soc. Rotation period of Mars; theory of equations; trigonometry.

Maury, Miss Antonia C(oetana de P. P.), Hastings-on-Hudson, N. Y. *Astrophysics.* Cold Spring, N. Y, March 21, 66. A.B, Vassar, 87. Asst, Harvard Observatory, 89–96. Instr. physical science, Gilman Sch, Cambridge, Mass, 91–94. Classification of the stellar spectra; spectroscopic binaries.

Maury, Dr. Carlotta J(oaquina), Hastings-on-Hudson, N. Y. *Paleontology.* Hastings-on-Hudson, Jan. 6, 74. Radcliffe, 91–94; Ph.B, Cornell, 96, Schuyler fellow, 98; Jardin des Plantes, 99–00; Ph.D, Cornell, 02. Teacher physical geog, Erasmus Hall High Sch, Brooklyn, N. Y, 00–01; *asst, Dept. Paleont, Columbia, 03–* Asst. curator, Newcomb collection of shells, Cornell. Comparison of the Oligocene of western Europe and that of southern United States; distribution of the molluscan fauna in the lakes of central New York.

Maxon, William R(alph), U. S. National Museum, Washington, D. C. *Botany.* Oneida, N. Y, Feb. 27, 77. Ph.B, Syracuse, 98. Aid crypt. bot, *Div. of Plants, U. S. Nat. Mus,* 99–05, *asst. curator, 05–* In Herbarium, N. Y. Bot. Garden, 98. M.A.A; Linnean Fern Chapter (pres, 00, 01); Wash. Bot. Soc. Pteridophyta of north and middle America.—West Indian ferns.

Maxwell, Dr. Fred B(aldwin), 308 Franklin Ave, River Forest, Ills. *Botany, Zoology.* New Milford, Ills, Oct. 23, 62. Ph.B, Beloit, 87; fellow, Cornell, 91–92, Ph.D, 92. Instr, Sch. for Blind, Janesville, Wis, 87–90; *teacher biol, high schools, Chicago, 92–* Supply in bot, North Carolina, spring, 91. M.A.A. Roots of Ranunculaceae.

Maxwell, Dr. S(amuel) S(teen), 4 Millwood St, Roslindale, Mass. *Physiology.* Manorcunningham, Ireland, Aug. 4, 60. B.S, Amity, 86, M.S, 88; Hopkins, 89–90; fellow, Chicago, 95–96, Ph.D, 96. Instr. math, Amity, 86–87, prof. nat. science, 87–89; Monmouth, 90–92, biol, 92–94, 96–02; asst. *physiol, Harvard,* 02–03, *instr, 03–* Instr. physiol, Chicago, summer, 96. Physiology of invertebrate nervous system; voluntary control of smooth muscle.—Physiology of muscular contraction and of ciliary movement.

May, Dr. Charles H(enry), 698 Madison Ave, New York, N. Y. *Ophthalmology, Otology.* Baltimore, Md, Aug. 7, 61. Col. City of N. Y, 75–77. Lecturer ophthal, N. Y. Polyclinic, 87–90; asst. surgeon, N. Y. Ophthal. and Aural Inst, 87–94; chief, Eye Clinic, and instr. ophthal, Columbia, 92–03. Ophthal. and aural surgeon to various hospitals; coeditor, 'Annals of Ophthal,' 92–04; 'Ophthalmology,' 04. Otol. Soc; Am. Acad. Med; N. Y. Otol. Soc; fel. N. Y. Acad. Med; Manhattan Med. and Surg. Soc; Metropolitan Med. Soc; N. Y. Co. Med. Soc; Greater N. Y. Med. Ass. Operations and diseases of eye and ear.—The field of vision; congenital abnormalities of the eye; injuries to the eye during parturition; trachoma.

Mayer, Dr. Alfred (Goldsborough), Maplewood, N. J. **Zoology.* Frederick, Md, April 16, 68. M.E, Stevens, 89; Sc.D, Harvard, 97. Asst. physics, Clark, 89–90; Kansas, 90–92; asst. to Mr. Alexander Agassiz and in charge of radiates, Mus. Comp. Zool, Harvard, 92–00; curator nat. sciences and curator-in-chief, Mus, Brooklyn Inst, 00–04; *director, Marine Lab, Carnegie Inst, Tortugas, Fla, 04–* Mem. Scientific Council, N. Y. Aquarium, 02– F.A.A; Soc. Nat; Soc. Zool; N. Y. Acad; Boston Soc. Nat. Hist; N. Y. Zool. Soc; Cambridge Entom. Club. Evolution and cause of coloration in Lepidoptera; Medusae; evolution of Medusae and of Partula of Tahiti; Atlantic palolo worm; instincts of Lepidoptera.—Pulsation of Medusae.

Maynard, C(harles) J(ohnson), 447 Crafts St, West Newton, Mass. *Biology.* West Newton, May 6, 45. Pub. schools. *Instr, Sch. of Biol, West Newton, 80–* Instr. nature study and evolution, State Nor. Sch, Framingham, Mass, 02. Boston Soc. Nat. Hist; Newton Nat. Hist. Soc. Structural ornithology; structure of mollusks, especially Cerionidae.—Structure of sound-producing organs of birds, especially of American bittern.

Mazÿck, W(illia)m G(aillard), Equitable Building, Charleston, S. C. *Conchology.* Cordesville, S. C, Oct. 12, 46. Railroad work, 62–64; librarian, Charleston Library Soc, 65–68; railroad work, 69–95; *sec'y and treas, Equitable Fire Ins. Co, 95–* Elliott Soc. (sec'y and treas.). Pulmonata geophila; Pulmonata.

Mead, Dr. A(lbert) D(avis), 283 Wayland Ave, Providence, R. I. **Zoology, Comparative anatomy.* Swanton, Vt, April 15, 69. A.B, Middlebury, 90; A.M, Brown, 91; Clark, 91–92; Ph.D, Chicago, 95. Instr. *comp. anat, Brown,* 95–96, assoc. prof, 96–00, *prof, 00–* Mem. R. I. Commission of Inland Fisheries and Artificial Culture. F.A.A; Soc. Nat. (sec'y, 00, 01); Soc. Zool; Wash. Acad; cor. mem. Seefischerei Verein. Embryology; fertilization and cleavage of egg; natural history of marine invertebrates.—Rate of growth of marine invertebrates.

Mead, Prof. Elwood, U. S. Department of Agriculture, Washington, D. C. *Irrigation engineering.* Patriot, Ind, Jan. 16, 58. B.S, Purdue, 82, M.S, 84; C.E, Iowa State, 83. Prof. irrig. eng, Colo. Agr. Col, 83–85; asst. state engineer, Colo, 85–86; prof. irrig. eng, Colo. Agr. Col, 86–88; state engineer, Wyo, 88–98; *chief irrigation investigation, U. S. Dept. Agr, 98–* Prof. institutions and practise of irrig, California, 99– Hon. D.Eng, Purdue, 04. F.A.A. (sec'y, D, 03); Civil Eng; Eng. Educ. Irrigation engineering; irrigation laws.

Mead, Prof. G(eorge) H(erbert), 6016 Jackson Park Ave, Chicago, Ills. *Philosophy.* South Hadley, Mass, Feb. 27, 63. A.B, Oberlin, 83; A.B, Harvard, 88. Instr. *philos,* Michigan, 91–93, asst. prof, 93–94; *Chicago,* 94–02, *assoc. prof, 02–* Psychol. Ass. Relation of philosophy, the natural sciences and comparative psychology.—The criterion of intelligence in lower forms.

Meade, Richard K(idder), Nazareth, Pa. *Chemistry.* Charlottesville, Va, Nov. 28, 74. Virginia, 92–94; B.S, Lafayette, 99. Chemist, Longdale Iron Co, 96–97; instr. chem, Lafayette, 97–02; *chief chemist,* Edison Portland Cement Co, 02–03; *Dexter Portland Cement Co, 03–* Ed, 'The Chemical Engineer.' Chem. Soc. (sec'y, Lehigh Valley Sect, 98–); Soc. Chem. Indust; Soc. Testing Materials. Methods of volumetric analysis; technical analysis and chemistry of Portland cement.—Chemical composition of and causes of the setting of hydraulic cements.

Means, Tho(ma)s H(erbert), 947 Rhode Island Ave, N. W, Washington, D. C. *Geology.* Waterford, Va, Nov. 15, 75. B.S, Columbian, 98, M.S, 01. In charge, Western Div. Soil Surv, *U. S. Dept. Agr,* 99–01, Soil Surv, 02, Alkali Land Reclamation, 03–04, *engineer of soils, U. S. Reclamation Service, 04–* Wash. Geol. Soc. Agricultural geology.—Drainage of irrigated districts; agricultural engineering.

Mearns, Major Edgar A(lexander), U. S. A, War Department, Washington, D. C. *Medicine, Zoology, Botany.* Highland Falls, N. Y, Sept. 11, 56. M.D, Columbia, 81; N. Y. Postgrad. and Polyclinic. First lieut. and asst. surgeon, *U. S. A,* 83–88, capt. and asst. surgeon, 88–01, *major and surgeon, 01–* Major and brigade surgeon, U. S. Vols, 98, major and chief surgeon, 99; curator of birds, Am. Mus. Nat. Hist, winter, 82–83. F.A.A; fel. Ornith. Union; Wash. Biol. Soc; Nat. Geog. Soc; N. Y. Linnaean Soc. Medicine; surgery; bacteriology; vertebrates; mollusks; flowering plants.—Mammals of the Mexican boundary line; local botany.

Mears, Dr. J(ames) Ewing, 1535 Land Fihle Building, Philadelphia, Pa. *Anatomy, Surgery.* Indianapolis, Ind, Oct. 17, 38. A.B, B.S, Trinity (Conn.), 58, A.M, 61; M.D, Jefferson Med. Col, 65. Instr. anat. and practical surg, Jefferson Med. Col, 65–90; prof. anat. and clin. surg, Pa. Col. Dental Surg, 70–99; instr. practical surg. and gynec, Jefferson Med. Col, 80–96. Contributor, 'Int. Encyclop. Surg,' 81–86; assoc. ed, 'Annals Universal Med. Sciences,' 88–91; contributor med. and surg, 'Cyclopedia Diseases of Children,' 89–99. Ass. Anat; Am. Med. Ass; fel. Surg. Ass. (ed, 'Trans,' 83–92, pres, 93); Pa. Med. Soc; Phila. Col. Physicians (ed, 'Trans,' 72–88); Phila. Path. Soc; fel. Phila. Acad. Surg. (pres, 98–99); Phila. Co. Med. Soc; hon. mem. Lehigh Valley Med. Soc. Anatomy; surgery.

Mears, Prof. Leverett, Williamstown, Mass. *Chemistry.* Essex, Mass, May 19, 50. A.B, Amherst, 74; Ph.D, Göttingen, 76. Instr. chem, Amherst, 76–81; *prof.* physics and chem, *Williams,* 81–88, *chem, 88–* Lecturer, Mt. Holyoke; mem. U. S. Assay Commission. Hon. A.M, Williams, 88. Chem. Soc.

Meek, Prof. S(eth) E(ugene), Field Columbian Museum, Chicago, Ills. *Ichthyology, Herpetology.* Hicksville, O, April 1, 59. B.S, Indiana, 84; fellow, Cornell, 85–86; A.M, Indiana, 86, Ph.D, 91. Prof. nat. sciences, Eureka (Ills.), 86–87; biol, Coe, 88–92; assoc. prof, Arkansas, 92–96; *asst. curator zool, Field Columbian Mus, 97–* Asst, N. Y. State Fish Commission, 86–87; U. S. Fish Commission, 87–97. Bronze medal, Paris Expos, 00. Chicago Acad; Wash. Acad; Wash. Biol. Soc. American salt- and fresh-water fishes; North American reptiles.—Fresh-water fishes of tropical America; reptiles of North America.

Mees, Pres. C(arl) L(eo), Rose Polytechnic Institute, Terre Haute, Ind. *Physics.* Columbus, O, May 20, 53. Ohio State, 73–74; M.D, Starling Med. Col, 74; Berlin, 80–81; Ph.D, South Kensington, 92. *Prof. physics,* Male

High Sch, Louisville, Ky, 76–80; Ohio State, 81–87; *Rose, 87–, pres, 95–* F.A.A. (sec'y, A, 87, sec'y, Council, 88, gen. sec'y, 89, v. pres, 96); Physical Soc; Eng. Educ; Nat. Geog. Soc; Ind. Acad. Micro-measurements; elastic behavior of solids; velocity of air in tornadoes; electrolysis.—Electromotive force constant.

Meigs, Dr. Arthur V(incent), 1322 Walnut St, Philadelphia, Pa. *Medicine.* Philadelphia, Nov. 1, 50. M.D, Pennsylvania, 71. *Physician, Pa. Hosp, 81–* Am. Physicians; Philos. Soc; fel. Phila. Col. Physicians (v. pres, 02, pres, 04, 05). Infant feeding, milk analysis and allied subjects; diseases of the blood-vessels and capillaries of the human heart.—Human blood-vessels.

Meiklejohn, Prof. Alexander, Brown University, Providence, R. I. *Philosophy.* Rochdale, England, Feb. 3, 72. A.B, Brown, 93, A.M, 95; Ph.D, Cornell, 97. Instr. *logic and metaphysics, Brown,* 97–99, asst. prof, 99–02, *assoc. prof, 02–* Philos. Ass; Psychol. Ass. Logic; scientific method.—Concept of substance.

Melander, A(xel) L(eonard), Pullman, Wash. *Entomology.* Chicago, Ills, June 3, 78. B.S, Texas, 01, fellow, 01–02, M.S, 02; fellow, Chicago, 02–04. Asst. zool, Texas, 00–01; *asst. entomologist, Wash. Agr. Exp. Sta, 04–* Insects. —The dipterous family Empididae, especially genus Rhamphomyia; economic entomology.

Mell, Dr. P(atrick) H(ues), Clemson College, S. C. *Geology, Botany.* Penfield, Ga, May 24, 50. A.B, Georgia, 71, C.E, M.E, 72, Ph.D, 80. State chemist, Ga, 74–77; prof. geol. and bot, Ala. Polytech, 78–02; director, Ala. Weather Service, 84–93; director, Ala. Exp. Sta, 98–02; *pres, Clemson, 02–* Medal, Paris Expos, 00. F.A.A; Geol. Soc; Ass. Agr. Col. (v. pres, 98); Nat. Geog. Soc; South. Hist. Ass; Ala. Hist. Ass; S. C. Hist. Ass. Ore deposits and mining in the south; auriferous state deposits in southern regions; southern soapstones and free clays; the cotton plant; grasses and forage plants; flora of Alabama; climatology of Alabama; invented system of weather signals now used by the U. S. Weather Bureau.

Mellus, Dr. E(dward) Lindon, 10 E. Chase St, Baltimore, Md. **Anatomy, Physiology.* Lubec, Me, May 24, 48. M.D, Jefferson Med. Col, 78. Ass. Anat; Physiol. Soc; Am. Med. Ass; Md. Med. and Chirurg. Faculty. Central nervous system.—Medulla oblongata.

Meltzer, Dr. S(amuel) J(ames), 107 W. 122nd St, New York, N. Y. **Physiology, Pathology.* Curland, Russia, March 22, 51. Königsberg, 72–76; M.D, Berlin, 82. *Assoc, Rockefeller Inst. for Med. Research.* Int. Cong. Arts and Science, St. Louis, 04 (chairman, Sect. Physiol.). F.A.A; Soc. Nat; Physiol. Soc; Ass. Path. and Bact; Soc. Bact; Am. Physicians; Soc. Exp. Biol. and Med. (pres.); Gastro-Enterol. Ass. (pres.); fel. N. Y. Acad. Physiology of deglutition; importance of vibration to life; inhibition; nervous mechanisms of respiration, heart-beat, etc; absorption, bactericidal powers of blood and lymph.—Absorption in nephrectomized animals; effects of suprarenals; importance of capsules to organs; inhibition in unicellular organisms; importance of superior cervical ganglion to pupillary dilatation and to inflammation; edema; absorption from muscles; toxic elements of bile.

Melville, Rear Admiral Geo(rge) W(allace), U. S. N. (retired), 1720 H St, N. W, Washington, D. C. **Mechanical engineering.* New York, N. Y, Jan. 10, 41. Brooklyn Polytech. Asst. engineer, U. S. N, 61–87, engineer-in-chief, 87–03, chief, Bur. Steam Eng, 89–03, rear admiral, 99–03. Gold medal by Act of Cong. for heroic service in Arctic, 90; hon. E.D, Stevens, 96; M.S, Columbia, 99; LL.D, Georgetown, 99; Sc.D, Pennsylvania, 01; decorated by Czar of Russia, Knight of St. Stanislaus of the First Class. Nat. Acad; Mech. Eng. (past pres.); hon. mem. Civil Eng; Naval Archit. and Marine Eng. (v. pres.); Mil. Order Loyal Legion; Nat. Geog. Soc; Philos. Soc; Wash. Acad; Phila. Acad; hon. mem. Franklin Inst; hon. mem. British Inst. Naval Archit; hon. mem. Swedish Soc. Anthrop. and Geog. Marine engineering; hull and engine vibration; use of triple screws in marine propulsion; arctic currents.—Use of oil fuel for marine purposes; drift cask experiment to determine flow of disputed arctic currents.

Mendel, Prof. Lafayette B(enedict), 18 Trumbull St, New Haven, Conn. **Physiological chemistry.* Delhi, N. Y, Feb. 5, 72. A.B, Yale, 91, Ph.D, 93; Breslau, 95–96; Freiburg, 96. Asst. *physiol. chem, Sheffield Sci. Sch, Yale,* 92–94, instr, 94–97, asst. prof, 97–03, *prof. and mem. Governing Board, 03–* Soc. Nat; Physiol. Soc; Soc. Exp. Biol. and Med; Conn. Acad. Chemistry of digestive processes; nuclein metabolism; lymph formation; etc.—Uric acid formation and nuclein metabolism; physiological action of nucleic acid and proteid derivatives; functions of the spleen; chemistry of growth; physiology of excretion; etc.

Mendenhall, Prof. C(harles) E(lwood), University of Wisconsin, Madison, Wis. **Experimental physics.* Columbus, O, Aug. 1, 72. B.S, Rose, 94; Ph.D, Hopkins, 98. Aid, U. S. Coast Surv, 93, 94; asst. *physics,* Pennsylvania, 94–95; instr, Williams, 98–01; asst. prof, *Wisconsin,* 01–04, assoc. prof, 04–05, *prof, 05–* Asst, Smithsonian Astrophys. Observatory, 98, 00, 01. F.A.A; Physical Soc. Infra-red spectrum of absolutely black body; sensitive galvanometers for bolometric work; absolute value of gravity. —Absolutely black bolometer.

Mendenhall, Dr. T(homas) C(orwin), Worcester, Mass. **Physics.* Hanoverton, O, Oct. 4, 41. Pub. schools. Prof. physics, Ohio State, 73–78; Imp. Univ. of Japan, 78–81; Ohio State, 81–84; elec, U. S. Signal Corps, 84–86; pres, Rose, 86–89; supt, U. S. Coast and Geod. Surv, 89–94; pres, Worcester, 94–01. Supt. weights and measures and mem, U. S. Lighthouse Board, 89–94; mem. Bering Sea Commission, 91–92; Alaska Bound. Commission, 92–95; chairman, Mass. Highway Commission, 96–01. Medal,

Paris Expos, 00; gold medal, Am. Geog. Soc, 01; hon. Ph.D, Ohio State; LL.D, Michigan; Sc.D, Rose. Delegate, Int. Elec. Cong, 93. Nat. Acad; F.A.A. (sec'y, A, 75, gen. sec'y, 76, v. pres, 82, pres, 89); Philos. Soc; Am. Acad; Antiq. Soc; hon. fel. Nat. Geog. Soc; Am. Geog. Soc; Mass. Hist. Soc; hon. fel. Franklin Inst; etc. Terrestrial gravity; seismology; atmospheric electricity; electricity; the solar spectrum.—New form of pendulum for absolute gravity.

Mendenhall, W(alter) C(urran), U. S. Geological Survey, Washington, D. C. *Geology.* Marlboro, O, Feb. 20, 71. B.S, Ohio Nor. Univ, 93; Harvard, 96–97; Heidelberg, 99–00. Asst. geologist, *U. S. Geol. Surv,* 94–01, *geologist, 01–* F.A.A; Geol. Soc; Wash. Geol. Soc. General geology; stratigraphy; physiography; geography and mineral resources of parts of Alaska.—Geology, physiography and hydrology of southern California.

Mengel, Levi W(alter), 739 Penn St, Reading, Pa. *Entomology.* Reading, Sept. 27, 68. Phila. Col. Pharmacy, 91; Acad. Nat. Sciences, Phila, 91–93. *Instr. nat. hist, Boys' High Sch, Reading, 94–* Curator, Reading Mus, 04– M.A.A. Rhopalocera; the family Erycinidae.—Complete synonomy of the family Erycinidae.

Mercer, H(enry) C(hapman), Doylestown, Pa. *Anthropology, Pottery.* Doylestown, June 24, 56. A.M, Harvard, 79. Curator American and prehistoric anthrop, Pennsylvania, 93–97. Assoc. ed, 'Am. Naturalist,' 93–97. Grand prize, La. Purchase Expos, 04. Hon. mem. U. S. Commission to Expos. Historico-Am, Madrid, 92. F.A.A; Philos. Soc; Phila. Acad; Phila. Numis. and Antiq. Soc; Phila. Geog. Soc. Antiquity of man; cave explorations in Central America and the United States; ethnology in implements of American pioneer; processes of forming, coloring and burning clay; printing in colors without a press; pottery.

Mercer, Dr. W(illiam) F(airfield), Athens, O. *Biology.* Mansfield, N. Y, Jan. 22, 64. Ph.B, Hillsdale, 90, Ph.M, 93; Ph.D, Cornell, 00. Instr. math, Hillsdale, 86–90; principal, Acad, and supt. pub. schools, Waterford, Pa, 91–94; *prof.* nat. science, Chamberlain Inst, 95–98; *biol. and geol, Ohio (Athens), 00–* Instr. histol. and embryol, Cornell, 99. M.A.A; Soc. Zool; Micros. Soc; Wash. Biol. Soc; Ohio Acad; hon. fel. British Soc. Bact. Chem. Development of wings in Lepidoptera; comparative study of the soft palate.—Development of teeth and leg bones of the sheep.

Merigold, Dr. B(enjamin) S(hores), Clark University, Worcester, Mass. *Chemistry.* Taunton, Mass, July 24, 73. A.B, Harvard, 96, A.M, 97, Ph.D, 01. Instr. *chem,* Worcester, 00–03; *asst. prof, Clark Col, 03–* Chem. Soc. Atomic weight determinations; analytical methods.—Atomic weight of uranium; methods of carbon determination.

Merrell, Dr. W(illia)m Dayton, 239 Westminster Road, Rochester, N. Y. *Biology.* Brooklyn, N. Y, Aug. 21, 69. A.B, Rochester, 91; Ph.D, Chicago, 98, fellow, 99. Instr. sciences, Wayland Acad, Beaver Dam, Wis, 91–94; Western Mil. Acad, Upper Alton, Ills, 94–95; asst. bot, Chicago, 96–99; instr. *biol, Rochester,* 99–05, *asst. prof, 05–* Rochester Acad. Silphium.

Merriam, Dr. C(linton) Hart, 1919 16th St, Washington, D. C. **Zoology, Botany, Ethnology.* New York, N. Y, Dec. 5, 55. Sheffield Sci. Sch, Yale, 74–77; Col. Physicians and Surg, Columbia, 77–79. Naturalist, Hayden Surv. (Idaho, Wyo, Utah), 72; asst, U. S. Fish Commission, 75; *chief, U. S. Biol. Surv, 85–* Bering Sea (fur-seal) Commissioner, 91. Nat. Acad; F.A.A; Soc. Nat; fel. Ornith. Union; Geog. Ass; Philos. Soc; Wash. Acad; Wash. Biol. Soc; Lewis Co. (N. Y.) Med. Soc. (past pres.); for. mem. London Zool. Soc. Mammals of North America; geographic distribution of animals and plants; Indian basketry and linguistics.

Merriam, Prof. John C(ampbell), University of California, Berkeley, Cal. *Paleontology, Geology.* Hopkinton, Ia, Oct. 20, 69. B.S, California, 88–90; Ph.D, Munich, 93. Instr. *paleont, California,* 95–99, *asst. prof, 00–* F.A.A; Geol. Soc; Paleont. Soc; Anthrop. Ass; Wash. Acad; Cal. Acad. Ichthyopterygia and Pythonomorpha of western North America; Tertiary geology and vertebrate paleontology of eastern Oregon; Tertiary geology and paleontology of California.—Triassic Vertebrata of California and Nevada; fossil Mammalia of eastern Oregon; Tertiary and Quaternary Carnivora of California.

Merrill, Prof. A(llyne) L(itchfield), Payson Park, Belmont, Mass. *Mechanical engineering.* Malden, Mass, Aug. 8, 64. B.S, Mass. Inst. Tech, 85. Instr. mech. eng, *Mass. Inst. Tech,* 85–93, asst. prof. *mechanism,* 93–99, assoc. prof, 99–05, *prof, 05–*

Merrill, Elmer D(rew), Bureau of Government Laboratories, Manila, P. I. *Botany.* East Auburn, Me, Oct. 15, 76. B.S, Maine, 98; Med. Sch, Columbian, 00–01; M.S. Maine, 04. Asst. nat. science, Maine, 98–99; asst. agrostologist, *U. S. Dept. Agr,* 99–02, *botanist,* Insular Bur. Agr, and Bur. Forestry, *Manila,* 02–03, *Bur. of Govt. Laboratories, 03–* M.A.A. Systematic and economic botany; Gramineae.—General systematic work on Philippine flora and investigation of economic plants; dictionary of native plant names.

Merrill, Dr. F(rederick) J(ames) H(amilton), 60 Wall St, New York, N. Y. **Geology.* New York, April 30, 61. Ph.B, Columbia, 85, fellow, 86–90, Ph.D, 90. Asst, N. J. Geol. Surv, 85–87; asst. state geologist, N. Y, 90–93; asst. director, N. Y. State Mus, 90–94, director, 94–04; state geologist, N. Y, 99–04; *consulting geologist and mining expert, N. Y. City, 04–* Director scientific exhibits of N. Y, Columbian Expos, 93; Pan-Am. Expos, 01; La. Purchase Expos, 04. F.A.A; Soc. Nat; Geol. Soc; Min. Eng; Nat. Geog. Soc; fel. N. Y. Acad; New Eng. Hist. and Geneal. Soc. Geology of crystalline rocks of southeastern New York;

coastal geology of New Jersey and New York; Quaternary geology of the Hudson River Valley and vicinity of New York City; economic geology of New York.—Classification and structural geology of the pre-Cambrian rocks of southeastern New York.

Merrill, Dr. George P(erkins), 1422 Staughton St, N. W, Washington, D. C. **Geology.* Auburn, Me, May 31, 54. B.S, Maine, 79; Wesleyan, 79–80; M.S, Maine, 83; Hopkins, 86–87; Ph.D, Maine, 89. Asst. chem, Wesleyan, 79–80; asst, Fisheries Census, 80–81; connected with *U. S. Nat. Mus*, 81–97, *curator and head curator geol, 97–* Lecturer geol, Md. Agr. Col, 90–91; prof. geol. and miner, George Washington, 93– Geol. Soc; Min. Eng; Wash. Geol. Soc. Petrography; meteorites; building stones; rock weathering.—Meteorites; rock weathering; history of American geology.

Merrill, Prof. Joseph F(rancis), University of Utah, Salt Lake City, Utah. *Physics, Electrical engineering.* Richmond, Utah, Aug. 24, 68. B.S, Michigan, 93; fellow, Hopkins, 98–99, Ph.D, 99; Cornell, summers, 93, 02; Chicago, summers, 94, 96, 97. Asst. prof. chem, *Utah*, 93–95, prof. physics and physical chem, 97–98, *principal, State Sch. Mines, 98–, prof. physics and elec. eng, 99–* M.A.A; assoc. mem. Elec. Eng; Electrochem. Soc. Effect of dielectric on electrical resistance; effect of temperature and pressure on electrolysis of silver nitrate.

Merrill, Prof. Lucius H(erbert), Bennoch St, Orono, Me. *Biological chemistry.* Auburn, Me, Oct. 1, 57. B.S, Maine, 83. Asst, U. S. Nat. Mus, 85–86; *chemist, Me. Exp. Sta, 86–, prof. biol. chem, Maine, 98–* M.A.A; Soc. Prom. Agr. Sci. Nutrition of man; wheat and its milling products.

Merriman, Corydon C, 1910 Surf St, Chicago, Ills. *Natural science.* Elbridge, N. Y, June 4, 27. A.B, Yale, 49, A.M. F.A.A; Micros. Soc. (pres.). Polar glaciers; origin of races; origin of the planets; structure of atoms.

Merriman, Prof. Mansfield, Lehigh University Park, South Bethlehem, Pa. **Civil engineering, Mechanics.* Southington, Conn, March 27, 48. Ph.B, Yale, 71, C.E, 72, Ph.D, 76. Asst. engineer, U. S. Eng. Corps, 73; instr. *civil eng*, Sheffield Sci. Sch, Yale, 74–78; *prof, Lehigh*, 78–Acting asst, U. S. Coast and Geod. Surv, 80–85; assoc. ed, 'Johnson's Cyclopedia,' 92–96. F.A.A. (v. pres, 94); Math. Soc; Civil Eng; Eng. Educ. (pres, 96); Philos. Soc; N. Y. Acad; Int. Ass. Testing Materials (pres, Am. Sect, 99). Mechanics and strength of materials; continuous beams and partially continuous drawbridges; hydraulics; final formulas for solution of quartic equations; least squares.—Mechanics and hydraulics.

Merritt, Prof. Ernest, 39 East Ave, Ithaca, N. Y. **Physics.* Indianapolis, Ind, April 28, 65. Purdue, 81–82; M.E, Cornell, 86, grad. student, 87–88; Berlin, 93–94. Instr. *physics, Cornell*, 82–92, asst. prof, 92–03, *prof, 03–* Assoc. ed, 'Physical Review.' F.A.A. (sec'y, B, 95, v. pres, 00); Physical Soc. (sec'y, 99–, ed, 'Bul.'). Efficiency of glow lamps; infra-red dichroism; photography of manometric flame; conduction in arc gases; reflected cathode rays; photo-electric rays; conductivity of gases due to presence of incandescent carbon.—Luminescence.

Merrow, Prof. Harriet Lathrop, Rhode Island College of Agriculture and Mechanic Arts, Kingston, R. I. *Botany.* Merrow, Conn, Sept. 8, 58. B.S, Wellesley, 86, A.M, 93; Michigan, 91–92. Teacher science, High Sch, Plymouth, Mass, 87–88; Harcourt Place, Gambier, O, 88–91; grad. asst, Michigan, 93–94; *prof. bot, R. I. Col. Agr. and Mech. Arts, 95–* M.A.A; Soc. Plant Morph. and Physiol. Parasitic fungi.

Mershon, Ralph D(avenport), 11 Pine St, New York, N. Y. *Electrical engineering.* Zanesville, O, July 14, 68. M.E, Ohio State, 90. Student asst. physics, Ohio State, 90, asst. elec. eng, 90–91; engineer and designer, Westinghouse Elec. and Mfg. Co, Pittsburg and New York, 91–97; chief engineer, Colo. Elec. Power Co, Cañon City and Cripple Creek, 97–98; engineer and designer, Westinghouse Elec. and Mfg. Co, 98–00; *consulting elec. and mech. engineer, 00–* John Scott medal, Franklin inst. M.A.A; Elec. Eng. (v. pres, 02–05); Mech. Eng; Franklin Inst. Air losses occurring on transmission lines at high voltages.

Messenger, Dr. H(iram) J(ohn), 637 Farmington Ave, Hartford, Conn. *Actuarial science.* Canandaigua, N. Y, July 6, 55. Lit.B, Cornell, 80, fellow, Ph.D, 86; Inst. of Actuaries, London, 90. Acting assoc. prof. math, N. Y. Univ, 86–90; *actuary, Travelers Ins. Co, 98–* Math. Soc; Actuarial Soc. Actuarial science.

Messenger, Prof. J(ames) Franklin, State Normal School, Farmville, Va. *Psychology.* Benton Co, Ia, Jan. 30, 72. A.B, Kansas, 95; A.M, Harvard, 01; fellow, Columbia, 01–02, Ph.D, 03. Instr. psychol, New Mexico, 99–00; asst, Harvard, 00–01; instr, Pratt Inst, 02–03; State Nor. Sch, Minn, 03–04; dean, Highland Park Nor. Col, 04–05; *prof. psychol, State Nor. Sch, Farmville, Va, 05–* F.A.A; Psychol. Ass; Nat. Educ. Ass. Perception of number.—Principles of instruction.

Metcalf, Dr. Haven, U. S. Department of Agriculture, Washington, D. C. *Botany.* Winthrop, Me, Aug. 6, 75. Colby, 92–94; A.B, Brown, 96, A.M, 97, grad. student, 97–98; Harvard, 99; Indiana, 00; Nebraska, 01–03, Ph.D, 03. Instr. bot, Brown, 96–99; prof. biol, Tabor, 99–01; assoc. prof. bot. and bacter, Clemson, and state botanist, S. C, 02–06; *pathologist, U. S. Dept. Agr, 06–* Demonstrator bot, Brown, 95–96; lecturer, Marthas Vineyard Summer Inst, 96–99; plant life, S. C. State Summer Sch, 03–05; special agent, U. S. Dept. Agr, 04, 05. F.A.A; Soc. Bact; Micros. Soc. A soft rot of the sugar-beet; Bacterium teutlium; cultural studies of a nematode associated with plant decay; the rice blast in South Carolina; individuality of chromosomes; collection and preservation of fungi.

Metcalf, Prof. Maynard M(ayo), Oberlin College, Oberlin, O. **Animal morphology.* Elyria, O, March 12, 68. A.B, Oberlin, 89; Ph.D, Hopkins, 93. Assoc. prof. biol, Woman's Col. of Baltimore, 93–97, *prof*, 97–05; *zool, Oberlin, 05–* F.A.A; Soc. Nat; Soc. Zool; Nat. Geog. Soc; Wash. Biol. Soc. Morphology of Tunicata and Mollusca.

Metcalf, William, 1 Fulton St, Pittsburg, Pa. *Engineering.* Pittsburg, Sept. 3, 38. C.E, Renssalaer, 58. Supt. and joint proprietor, Fort Pitt Foundry, 58–68; joint proprietor, Crescent Steel Works, 68–95; *pres, Brocburn Steel Co, 97–* Medal, Civil Eng. F.A.A; Civil Eng; Min. Eng; Mech. Eng; West. Pa. Eng. Soc; British Inst. Civil Eng. Physical properties of iron and steel.

Metcalf, Prof. W(ilmot) V(ernon), Südstr. 88 II, Leipzig, Germany. *Chemistry.* Bangor, Me, Sept. 2, 60. A.B, Oberlin, 83, A.M, 86; Ph.D, Hopkins, 90; Würzburg, 95–96; Leipzig, 03–05. Prof. nat. science, Whitman, 83–85; instr. chem. and physics, Carleton, 90–91, prof, 91–03. M.A.A; Chem. Soc. Reaction of diazo-compounds with alcohols; nitro-compounds.

Metzler, Prof. W(illiam) H(enry), 724 Comstock Ave, Syracuse, N. Y. **Mathematics.* Odessa, Ont, Sept. 18, 63. A.B, Toronto, 88; Ph.D, Clark, 92. Instr. *math*, Mass. Inst. Tech, 92–94; assoc. prof, *Syracuse*, 95–96, *prof, 96–* F.A.A; Math. Soc; fel. Can. Royal Soc; British Ass; London Math. Soc; British Math. Ass; fel. Edinburgh Royal Soc; Math. Verein; Soc. math. de France. Mathematics.

Meyer, Dr. Adolf, 35 Mt. Morris Park, W, New York, N. Y. **Psychiatry, Neurology.* Zürich, Switzerland, Sept. 13, 66. Staatsexamen, Zürich, 90; Paris, Edinburgh, London, Vienna and Zürich, 90–92; M.D, Zürich, 92; hon. fellow, Chicago, 92–93. Docent, Chicago, 93–95; pathologist, Ills. Eastern Hosp, 93–95; Worcester Insane Hosp, 95–02; docent psychiat, Clark, 95–02; *director, Path. Inst. of State Hospitals of N. Y, 02–; prof. psychiat, Med. Col, Cornell, 04–* LL.D, Glasgow, 01. F.A.A; Am. Physicians; Ass. Path. and Bact; Neur. Ass; Ass. Anat; Medico-Psychol. Ass; Philos. Soc; fel. N. Y. Acad; hon. mem. Boston Soc. Psychiat. and Neur; London Neur. Soc. Comparative anatomy of forebrain, chiefly of reptiles; neurology; pathological anatomy of the nervous system; psychopathology.—Normal and pathological anatomy of the occipital lobe; habit disorganizations.

Meyer, Dr. A(rthur) W(illiam), 1119 N. Caroline St, Baltimore, Md. *Anatomy.* Cedarburg, Wis, Aug. 18, 73. B.S, Wisconsin, 98; M.D, Hopkins, 05. Instr. physics, St. Johns Mil. Acad, 98–01; *asst. anat, Hopkins Med. Sch, 05–* Ass. Anat. Structure of endothelium of body cavity of the cat; structure of the human umbilical vesicle.—Regeneration of lymphatic glands; structure and development of hemolymph glands in the sheep.

Meyer, Dr. J(ohn) Frank(lin), University of Pennsylvania, Philadelphia, Pa. *Physics.* Penn Hall, Pa, March 11, 75. A.B, Franklin and Marshall, 94, A.M, 97; Hopkins, 97–99; Pennsylvania, 01–04, Ph.D, 04. Principal, High Sch, Alexandria, Pa, 94–96; instr. physics, Franklin and Marshall Acad, 96–97; prof. physics and chem, High Sch, Lower Merion, 00–02; *instr. physics, Pennsylvania, 02–* M.A.A; Physical Soc; Lancaster (Pa.) Linnaean Soc. Electrical convection; thermoelectromotive force in organic solvents.—Thermoelectromotive force of cobalt.

Meyer, Prof. Max, Columbia, Mo. **Psychology.* Danzig, Germany, June 15, 73. Ph.D, Berlin, 96, grad. student, 96–98. *Prof. exp. psychol, Missouri, 00–* F.A.A; Psychol. Ass; West. Philos. Ass. Physiological acoustics; psychological theory of music.—Psychological theory of music; psychology of painting and sculpture.

Mezes, Dr. S(idney) E(dward), 306 W. 11th St, Austin, Tex. *Ethics.* Belmont, Cal, Sept. 23, 63. B.S, California, 84; A.B, Harvard, 90; Tübingen, 90; A.M, Harvard, 91, Ph.D, 93. Lecturer *philos*, Bryn Mawr, 92–93; docent, Chicago, 93–94; adj. prof, *Texas*, 94–97, assoc. prof, 97–00, *prof, 00–, dean, 02–* F.A.A; fel. Tex. Acad. Pleasure-pain; conscience; causes of crime; differences between man and other animals.—Comparative and genetic psychology and social anthropology, both in the interest of scientific ethics.

Michael, Prof. Arthur, Tufts College, Mass. **Chemistry.* Buffalo, N. Y, August 7, 53. Heidelberg, 72–74; Berlin, 75–78; École de Médécine, Paris, 79. *Prof. chem*, Tufts, 81–90; Clark, 91; *Tufts, 94–* Nat. Acad; fel. Am. Acad. Investigations in organic chemistry bearing on its fundamental laws.

Michaud, Prof. Gustave, 102 Shattuck Ave, Springfield, Mass. *Ethnology.* Geneva, Switzerland, Nov. 30, 60. B.S, Geneva, Switzerland, 84, Sc.D, 86. *Prof. science*, College de Payerne, 87–89; Liceo de Costa Rica, 89–94; *French American Col, Springfield, 94–* Medal, Columbian Expos, 92. Geneva Nat. Inst; cor. mem. Algerian Soc. des Sci. Ethnology of the white race; Spanish folk-lore; tropical climatology.—Physical and mental ethnology of the American white race as determined by emigration, climate and interstate migrations.

Michelson, Prof. A(lbert) A(braham), University of Chicago, Chicago, Ills. **Physics.* Strelno, Germany, Dec. 19, 52. Grad, U. S. Naval Acad, 73; Berlin, 80; Heidelberg, 81; Col. de France, 82. Instr. physics and chem, U. S. Naval Acad, 75–79; prof. physics, Case, 83–89; Clark, 89–92; *prof. physics and head of dept, Chicago, 92–* Mem. Bur. Int. des Poids et Mesures, 92–93; mem. Int. Commission Weights and Measures, 97. Lowell lecturer, 99. Rumford Medal, 89; grand prize, Paris Expos, 00; hon. Ph.D, Western Reserve, 86; Stevens, 87; Sc.D, Cambridge, 99; LL.D, Yale, 01. Nat. Acad; F.A.A. (v. pres, 88); Physical Soc.

(pres, 00); Astron. and Astrophys. Soc; Philos. Soc; assoc. fel. Am. Acad; fel. Royal Soc; cor. mem. British Ass; fel. Royal Astron. Soc; hon. mem. Royal Inst; cor. mem. Paris Acad; Soc. de Physique; Holland Soc. des Sci. Light.

Middlekauff, Dr. George W(iles), Bureau of Standards, Washington, D. C. *Physics.* Leitersburg, Md, June 5, 69. A.B, Franklin and Marshall, 91, A.M, 94; Chicago, summer, 02; Ph.D, Hopkins, 03. Instr. math, Palatinate, 91–92; principal schools, Leitersburg, Md, 93–94; instr. science and math, High Sch, Waynesboro, Pa, 94–99; *asst, Bur. Standards, 03–* Physical Soc. Spectroscopy.—Effect of capacity and self-induction upon wave-lengths in the spark spectrum.

Milham, Prof. Willis I(sbister), Williamstown, Mass. *Physics, Astronomy.* Kinderhook, N. Y, Feb. 11, 74. A.B, Williams, 94, A.M, 95; Ph.D, Strasburg, 01. Asst. physics, *Williams,* 95–96, instr. math. and physics, 96–98, asst. prof. *math. sciences,* 98–99, 01–02, *prof, 02–* F.A.A; Physical Soc. Cathode rays.—Velocity of cathode rays.

Miller, Prof. Alfred S(tanley), Moscow, Idaho. *Mining, Metallurgy, Geology.* Normal, Pa, Oct. 20, 56. A.B, A.M, Stanford, 95; Ph.D, Heidelberg (Ohio), 95; E.M, Sch. of Practical Eng, San Francisco, 98. Principal, High Sch. and supt. schools, E. Mauch Chunk, Pa, 80–82; prof. nat. science, Wichita (Kas.), 89–92, pres, 92–93; *prof. mining, metal. and geol, Idaho, 97–* Min. Eng; Chem. Soc. Chemical behavior of ammonia towards ferric chlorid and ferrous chlorid.—Metallurgy of gold.

Miller, Prof. Arthur M(cQuiston), 609 S. Limestone St, Lexington, Ky. *Geology.* Eaton, O, Aug. 6, 61. A.B, Princeton, 84, A.M, 87, fellow, 88–89; Munich, 91–92. Principal, High Sch, Eaton, O, 85–88; *prof.* biol. and geol, Wilson, 89–91; *geol, Ky. State, 92–* F.A.A; Geol. Soc. Geology of petroleums; Kentucky geology.

Miller, Prof. Benj(amin) L(eRoy), Bryn Mawr College, Bryn Mawr, Pa. *Geology.* Sabetha, Kas, April 13, 74. A.B, Kansas, 97; A.M, Penn, 98; fellow, Hopkins, 01–03, Ph.D, 03. Prof. biol. and chem, Penn, 97–00; *assoc. geol, Bryn Mawr, 03–* Asst, Kas. Univ. Geol. Surv, 96; Ia. Geol. Surv, 99; Md. Geol. Surv, 00–02. M.A.A; Geol. Soc; Iowa Acad. Areal geology. —Areal geology in coastal plain of Maryland.

Miller, Dr. Clifton M(eredith), 414 E. Grace St, Richmond, Va. *Ophthalmology, Otology, Rhinology.* Richmond, Va, April 21, 73. M.D, Med. Col. of Va, 92. Demonstrator anat, *Med. Col. of Va, 96–05, instr. diseases of eye and ear, 01–, prof. anat, 05–* Ed, Dept. Diseases of Eye, Ear, Nose and Throat, 'Old Dominion Jour. of Med. and Surg.' Ass. Anat; Va. Med. Soc; Richmond Acad. Med. and Surg.

Miller, Prof. Dayton C(larence), Case School of Applied Science, Cleveland, O. **Physics, Astronomy.* Strongsville, O, March 13, 66. Ph.B, Baldwin, 86, A.M, 89; Sc.D, Princeton, 90. Prof. nat. science, Baldwin, 88–89; instr. math. and physics, *Case,* 90–93, asst. prof. *physics,* 93–95, *prof, 95–* Bookkeeper, Bank of Berea, O, 86–87; trustee, Baldwin, 89– F.A.A. (sec'y, B, 03, 04–); Physical Soc; Astron. and Astrophys. Soc; Cleveland Civil Eng. and Elec. Clubs. Velocity light in magnetic field; expansion of gases; Röntgen rays; relative motion of earth and ether; efficiency of incandescent gas light.—Interferometer applications; quality of musical sounds.

Miller, Dr. Dickinson S(ergeant), Columbia University, New York, N. Y. *Philosophy, Psychology.* Philadelphia, Oct. 7, 68. Pennsylvania, 85–88; Clark, 89–90; A.B, A.M, Harvard, 92; Ph.D, Halle, 93. Assoc. *philos,* Bryn Mawr, 93–98; instr, Harvard, 99–04; *lecturer, Columbia, 04–* Philos. Ass; Psychol. Ass. Metaphysics; ethics; analytic psychology.

Miller, Prof. Edmund H(owd), 329 W. 83d St, New York, N. Y. **Chemistry.* Fairfield, Conn, Sept. 12, 69. Ph.B, Columbia, 91, A.M, 92, Ph.D, 94. Asst. assaying, *Columbia,* 91–94, tutor, 94–97, instr, 97–01, adj. prof. anal. chem. and assaying, 01–04, *prof. anal. chem, 04–* F.A.A; Chem. Soc. (mem. Exec. Committee, N. Y. Sect, 01, v. chairman, 02–03, chairman, 03–04, mem. Council, 03–); Min. Eng; Soc. Chem. Indust; fel. London Chem. Soc. Assay of tin; succinimid; fire assay methods; analytical methods; ferrocyanids of cadmium, lead, manganese and zinc; assay of platinum; cobaltcyanids; etc.

Miller, Prof. Ephraim, 1244 Tennessee St, Lawrence, Kas. *Mathematics, Astronomy.* Carrollton, O, April 25, 33. A.B, Allegheny, 55, A.M, 58. Supt. schools, Findlay, O, 59–70; Lawrence, Kas, 70–74; *prof. math. and astron, Kansas, 74–* Univ. librarian, 74–86. Hon. Ph.D, Allegheny, 95. F.A.A; Math. Soc; Astron. and Astrophys. Soc; Pacific Astron. Soc; Kas. Acad. (pres, 91); Soc. Belge d'Astron. Differentials; determinants; moons of Mars; corona of the sun; the moon's surface; non-Euclidean geometry.—Variation in latitude.

Miller, Dr. F(rank) E(llsworth), Westerville, Ohio. *Mathematics.* Clearport, O, April 17, 62. A.B, Otterbein, 87, A.M, 90, Ph.D, 91. Prof. math, Northeastern Col, Canfield, O, 88–89, pres, 89–90; *prof. math, Otterbein, 90–* M.A.A; Ohio Teachers Math. and Sci; Int. Ass. Prom. Quaternions. Quarternions.—Mechanics.

Miller, Frank (Francis) G(arner), University of Nebraska, Lincoln, Nebr. *Forestry.* Lanark, Ills, June 2, 66. Ph.B, Iowa, 00; B.S.A, Iowa State, 01; M.F, Yale, 03. Supt. schools, Parkersburg, Ia, 93–95; Dunlap, Ia, 95–99; *expert, Bur. Forestry, U. S. Dept. Agr, 01–* Soc. Foresters; Forestry Ass; Nat. Geog. Soc. The germination and growth of Leguminosae, with reference to large and small seed.—The germination of forest tree seed; timber resources of Nebraska.

Miller, Prof. G(eorge) A(bram), Stanford University, Cal. **Mathematics.* Lynnville, Pa, July 31, 63. A.B, Muhlenberg, 87; Ph.D, Cum-

berland, 93; Leipzig and Paris, 95–97. Principal schools, Greeley, Kas, 87–88; prof. *math*, Eureka, 88–93; instr, Michigan, 93–95; Cornell, 97–01; asst. prof, *Stanford*, 01–03, *assoc. prof*, *03–* Instr, Summer Sch, Chicago, 98. Int. prize, Cracow Acad. Sci, 00. F.A.A. (sec'y, A, 01); Math. Soc. (sec'y, San Francisco Sect, mem. Council, 01–04); London Math. Soc; Soc. math. de France. Theory of groups of finite order.—Groups of fundamental operations of mathematics.

Miller, Gerrit S(mith), Jr, U. S. National Museum, Washington, D. C. *Zoology.* Peterboro, N. Y, Dec. 6, 69. A.B, Harvard, 94. *Asst. curator, Div. of Mammals, U. S. Nat. Mus, 98–* M.A.A; Wash. Acad; Wash. Biol. Soc; Boston Soc. Nat. Hist; cor. mem. London Zool. Soc. Taxonomy of mammals of the world.—Id; correlation of life areas in eastern and western portions of the northern hemisphere.

Miller, Mrs. H(arriet) M(ann) (Olive Thorne Miller), Garvanza, Cal. *Natural history.* Auburn, N. Y, June, 25, 31. Private schools. Mem. Ornith. Union; N. Y. Audubon Soc; N. Y. Linnean Soc; hon. mem. several ornith. societies. Life histories of birds.—The living bird.

Miller, Prof. John A(nthony), Escondite, Bloomington, Ind. *Astronomy.* Greensburg, Ind, Dec. 16, 59. A.B, Indiana, 90; A.M, Stanford, 93; Ph.D, Chicago, 99. Instr. math, Indiana, 90; supt. schools, Rockville, Ind, 90–91; instr. math, Stanford, 91–94, asst. prof, 94–95; *prof. mech. and astron, Indiana, 97–* M.A.A; Astron. and Astrophys. Soc; Math. Soc; Ind. Acad. Modular elliptic functions of square rank.—Daylight meteors; measurement of double stars.

Miller, Dr. J(oseph) L(eggett), 100 State St, Chicago, Ills. *Medicine.* Kewanee, Ills, Nov. 24, 67. B.S, Michigan, 93; M.D, Northwestern, 95. *Asst. prof. med, Rush Med. Col, 05–* Attending physician, Cook Co. Hosp. Am. Physicians; Am. Med. Ass. (sec'y, Sect. Med.); Ills. Med. Ass. Detection of smegma bacillus; chlorid retention in nephritis; Kernig's sign.—Experimental production of arteriosclerosis; exudates and transudates.

Miller, Dr. J(oseph) W(arren), 120 S. Third St, Harrisburg, Pa. *Mathematics, Mechanics.* Washington Boro, Pa, Oct. 30, 75. B.S, Pa. State, 97; fellow, Columbia, 98–00, A.M, 99, hon. fellow, 00–01, Ph.D, 01. Observer, U. S. Coast and Geod. Surv, 01; *instr. math. and astron, Lehigh, 02–* Elastic properties of helical springs.—Calculus.

Miller, Prof. Kelly, Howard University, Washington, D. C. *Mathematics, Sociology.* Winnsboro, S. C, July 23, 63. A.B, Howard, 86; Hopkins, 87–89. *Prof. math, Howard, 90–* Acad. Polit. and Social Sci; Am. Negro Acad. (v. pres.). Euclid and his modern rivals; scales of denominate units; negro problems.—Experimental geometry; negro problems.

Miller, Dr. Wilhelm, W. Englewood, N. J, and 133 E. 16th St, New York, N. Y. *Horticulture.* King William Co, Va, Nov. 14, 69. A.B, Michigan, 92; A.M, Cornell, 97, Ph.D, 99. Assoc. ed, 'Cyc. of Am. Hort,' 99–02; asst. ed, '*Country Life in America,*' 01–04, *ed, 04–*; '*Garden Magazine,*' *05–* Asst, Cornell Agr. Exp. Sta, summers, 96–98. Pomol. Soc; Chrysanthemum Soc. Botany of cultivated plants.—Lupines; chrysanthemums; dahlias.

Miller, Willet G, Bureau of Mines, Toronto, Can. *Geology.* Norfolk Co, Ont. A.B, A.M, Toronto, fellow, 90–93; Chicago; Harvard; Heidelberg. *Geologist, Ont. Bur. Mines, 87–; provincial geologist, Ont, 02–* Lecturer and prof. geol, Queen's (Can.), 93–02. Geol. Soc; Min. Eng; Can. Min. Inst. Pre-Cambrian and economic geology of Ontario.

Miller, Prof. W(illiam) Lash, 50 St. Alban St, Toronto, Can. **Physical chemistry.* Galt, Ont, Sept. 10, 66. A.B, Toronto, 87; Berlin, 87–89; Göttingen, 89; Ph.D, Munich, 90; fellow, Toronto, 90; Leipzig, 92. Demonstrator chem, *Toronto*, 91–99, *assoc. prof. physical chem, 00–* Mem. Board of Reviewers, 'Jour. Physical Chem,' 96– Chem. Soc; Soc. Chem. Indust; Electrochem. Soc; Wash. Acad; Can. Royal Soc; London Chem. Soc; Chem. Gesell; Bunsen Gesell. Chemical kinetics; electrochemistry.—Bactericidal action of phenol solutions containing salts; electrical transport in acetic acid; rates of reaction to test kinetic theory and catalysis theories.

Miller, Prof. W(illia)m S(now), University of Wisconsin, Madison, Wis. **Anatomy, Histology.* Stirling, Mass, March 29, 58. M.D, Yale, 79; fellow, Clark, 90–92. Pathologist, City Hosp. and Memorial Hosp, Worcester, Mass, 89–92; instr. vert. anat, *Wisconsin*, 92–95, asst. prof, 95–04, *assoc. prof. anat, 04–* F.A.A; Soc. Nat; Ass. Anat; Wis. Acad. Comparative anatomy of the organs of respiration; histology of the mammalian lung.

Milliken, Prof. Carl S(pencer), Ripon, Wis. *Biology.* Malden, Mass, Jan. 27, 76. B.S, Mass. Inst. Tech, 99. Teacher biol. and chem, High Sch, Flint, Mich, 99–01; *biol*, Lawrence, Mass, 01–03; *prof, Ripon, 03–* Histogenesis of the retina in the embryo chick; the supposed equivalence of sodium and lithium ions in skeletal muscle.

Millikan, Prof. Robert A(ndrews), University of Chicago, Chicago, Ills. *Experimental physics.* Morrison, Ills, March 22, 68. A.B, Oberlin, 91, A.M, 92; fellow, Columbia, 93, Ph.D, 95. Tutor *physics*, Oberlin, 91–93; asst, *Chicago*, 96–97, assoc, 97–99, instr, 99–02, *asst. prof, 02–* Int. Cong. Arts and Science, St. Louis, 04 (sec'y, Sect. Physics of the Electron). Physical Soc. (mem. Exec. Committee). Polarization of light emitted by incandescent solid and liquid surfaces; variation of dielectric constants with frequencies; relation between radio-activity and uranium content of uranium minerals.—Discharge in high vacua for small discharge distances; effect of temperature on the discharge of electricity from metals under the influence of ultraviolet light.

Millis, Major John, U. S. A, Engineer's Office, Burke Building, Seattle, Wash. *Optics, Electricity, Physics.* Wheatland, Mich, Dec. 31, 58. Grad, U. S. Mil. Acad, 81. Second lieut, first lieut, capt. and *major, Eng. Corps, U. S. A, 81–* Mem. Board of Examiners, Elec. Expos, Phila, 84; U. S. Lighthouse Board, 94–98. Nat. delegate, Congresses Navigation, Elec. and Physics, Paris, 00. M.A.A; Physical Soc; Elec. Eng; Civil Eng; Naval Inst; Mil. Service Inst; hon. mem. Pacific N. W. Soc. Eng; Soc. de Physique; Ass. Navig. Congresses. Gravitation and general physical theory; illumination.

Mills, Brig. Gen. A(lbert) L(eopold), U. S. A, Supt. U. S. Military Academy, West Point, N. Y. *Military science.* New York, N. Y, May 7, 54. Grad, U. S. Mil. Acad, 79. Second lieut, first lieut, capt, col. and *brig. gen, U. S. A, 79–,* instr, Dept. Art of War, U. S. Inf. and Cavalry Sch, Ft. Leavenworth, Kas, 94–98, *supt, U. S. Mil. Acad, 98–* Instr. tactics, S. C. Mil. Acad, 79–86; adjt, First Cavalry, 90–94; asst. adjt. gen. vols, 98. Military history, organization and tactics.

Mills, Prof. Cha(rle)s K(arsner), 1909 Chestnut St, Philadelphia, Pa. *Neurology.* Falls of Schuylkill, Pa, Dec. 4, 45. Central High Sch, Phila, 60–64; M.D, Pennsylvania, 69, Ph.D, 71. Prof. diseases of the mind and nervous system, Phila. Polyclin, 83–98; mental diseases and med. juris, *Pennsylvania,* 93–01, clin. prof. nervous diseases, 01–03, *prof. neur, 03–* Clin. prof. nervous diseases, Women's Med. Col. of Pa, 91–02. Neur. Ass. (pres, 86–87); Phila. Col. Physicians. Neurology.

Mills, Prof. (Thomas) Wesley, McGill University, Montreal, Can. *Physiology, Psychology.* Brockville, Ont. A.M, Toronto; M.D, McGill; L.R.C.P, London; D.V.S, McGill. Teacher, High Sch. and Female Col; *prof. physiol, McGill.* F.A.A; Soc. Nat; Physiol. Soc; Psychol. Ass; Can. Royal Soc. Physiology of the heart and of the nervous system; physiology of the voice; comparative psychology.—Comparative physiology of the brain; etc.

Mills, William C, Page Hall, Ohio State University, Columbus, O. *Archeology.* Pyrmont, O, Jan. 2, 60. B.S, Ohio State, 89, M.S, 02. *Curator, Dept. Archeol, Ohio State, and curator and librarian, Ohio Archeol. and Hist. Soc, 98–* Director field explorations, Ohio Archeol. and Hist. Soc, 00; assoc. ed, 'Ohio Naturalist,' 00; in charge exhibit, Ohio State Archeol. and Hist. Soc, Pan-Am. Expos, 01. F.A.A; Soc. Nat; assoc. Ornith. Union; Ohio Acad. (librarian, 99–). Mounds and village sites; Ohio flint.—Baum prehistoric village sites, Ross county, Ohio; microscopical sections of Ohio flint.

Millspaugh, Prof. C(harles) F(rederick), 5748 Madison Ave, Chicago, Ills. **Botany.* Ithaca, N. Y, June 20, 54. Cornell, 72–75; M.D, N. Y. Homeop. Med. Col, 81. Prof. bot, West Virginia, 91–92; *curator, Dept. Bot, Field Columbian Mus, 94–; professorial lecturer bot, Chicago, 95–; prof. med. bot, Chicago Homeop. Med. Col, 96–* Ed, 'Homeop. Recorder,' 89–90; mem. Pan-Am. Commission Med. Plants, 99–01. Soc. Nat; Bot. Soc; Wild Flower Preservation Soc. (director, 02–); Explorer's Club; hon. mem. Broome Co. (N. Y.) Homeop. Med. Soc; Binghamton Acad; hon. fel. Mex. Med. Soc; Brazil Med. Soc. Flora of Yucatan; medicinal plants of American Indians; North American Euphorbiaceae; flora of the Bahamas; limits of the Greater Antillean floras.

Minchin, Howard D(aniel), 17 Joslyn Park, Rochester, N. Y. *Physics, Electrochemistry.* Belleville, Ont, May 3, 68. B.S, Michigan, 99, A.M, 04. Principal, High Sch, Niles, Mich, 99–01; *instr. physics,* Detroit, 01–04; *Rochester, 04–* Mem. Committee on Course of Study in Chem. for Mich. Secondary Schools. Mich. Physical Conf. Radiation of metals; measurement of sound waves; reflection of light from colored papers; distillation and purification of mercury; coefficient of expansion of fused quartz; etc.

Miner, Prof. J(ames) B(urt), University of Iowa, Iowa City, Ia. *Psychology.* Berlin, Wis, Oct. 6, 73. B.S, Minnesota, 97, LL.B, 99, M.S, 01; fellow, Columbia, 02–03, Ph.D, 03. Instr. psychol, Illinois, 03–04; *Iowa,* 04–05, *asst. prof. philos, 05–* M.A.A; Psychol. Ass; Nat. Educ. Ass. Rhythm.—Acquisition of vision.

Minor, Dr. Ralph S(mith), University of California, Berkeley, Cal. *Physics.* Deposit, N. Y, April 29, 76. A.B, Hamilton, 98, Root fellow, 98; Freiburg, 98–99; A.M, Hamilton, 01; Ph.D, Göttingen, 02. Science teacher, High Sch, Little Falls, N. Y, 02–03; *instr. physics, California, 03–* Physical Soc; N. Y. State Science Teachers Ass. Absorption and refraction of ultraviolet radiation.

Minot, Dr. C(harles) S(edgwick), Harvard Medical School, Boston, Mass. **Embryology, Biology.* Boston, December 23, 52. B.S, Mass. Inst. Tech, 72; Leipzig, 73–75, 76; Paris, 75; Würzburg, 76; Sc.D, Harvard, 78. Lecturer embryol. and instr. oral path. and surg, *Harvard Med. Sch,* 80–83, instr. *histol. and embryol,* 83–87, asst. prof, 87–92, *prof, 92–* LL.D, Yale, 99; hon. Sc.D, Oxford, 02; LL.D, Toronto, 04. Nat. Acad; F.A.A. (sec'y, F, 82, asst. gen. sec'y, 84, gen. sec'y, 85, v. pres, 90, pres, 01); Soc. Nat; Soc. Zool; Ass. Anat. (pres, 04); Physiol. Soc; Psychol. Ass; Philos. Soc; Am. Acad; Boston Soc. Nat. Hist. (pres, 97–); Mass. Zool. Soc. (pres.); N. Y. Acad; British Ass; Anat. Gesell; Soc. Biol. de Paris; Turin Reale Accad. Embryology; comparative anatomy; general biology; physiology; invented two forms of automatic microtomes.

Mitchell, Prof. Henry Bedinger, Columbia University, New York, N. Y. *Mathematics.* Long Island, N. Y, Aug. 12, 74. Columbia, 91–92; Dresden Polytech, 92–93; E.E, Columbia, 98, A.M, 00. Asst. *math, Columbia,* 98–00, tutor, 00–05, *adj. prof, 05–* M.A.A; Math. Soc.

Foundations of the calculus.—Calculus of quaternions; philosophy of mathematics.

Mitchell, Prof. I(rving) N(elson), 2921 Cedar St, Milwaukee, Wis. *Biology.* Bennington, Mich, Dec. 9, 50. Ph.B, Michigan, 75. Principal, High Sch, Niles, Mich, 75–77; principal and supt. schools, Hastings, Mich, 78–80; teacher, Grand Rapids, 81–83, supt. schools, 83–86; principal and supt, Fond du Lac, Wis, 87–92; *prof. biol, State Nor. Sch, Milwaukee, 93–* Bot. Cent. States; Wis. Acad; Wis. Nat. Hist. Soc. Life history of Verbena stricta.

Mitchell, Dr. John K(earsley), 1730 Spruce St, Philadelphia, Pa. *Neurology.* Philadelphia, July 13, 59. A.B, Harvard, 81; M.D, Pennsylvania, 83. Asst. demonstrator physical diagnosis, Pennsylvania, 87–98, *lecturer* gen. symptomat, 98–00; *massage, Phila. Infirmary for Nervous Diseases, 89–* Physician, St. Mary's and St. Agnes Hospitals; neurologist, Presbyterian Hosp; physician, Phila. Orthop. Hosp. and Infirmary. Am. Physicians; Am. Med. Ass; Neur. Ass; Phila. Neur. Soc. (pres, 02); Phila. Path. Soc; fel. Phila. Col. Physicians; Phila. Co. Med. Soc. Neurology; physical diagnosis.—Chemistry of possible toxic causes of family periodic palsy; anemia and the influence of massage on blood-making functions.

Mitchell, Dr. S(amuel) A(lfred), Columbia University, New York, N. Y. *Astronomy.* Kingston, Can, April 29, 74. A.M, Queen's (Can.), 94; Ph.D, Hopkins, 98. Research asst, Yerkes Observatory, 98–99; *tutor astron, Columbia, 99–* Asst. astronomer, U. S. Naval Observatory Eclipse Exped, Ga, 00; Sumatra, 01; Spain, 05; asst, Astrophys. Observatory, Smithsonian Inst, 04. M.A.A; Astron. and Astrophys. Soc; fel. N. Y. Acad; fel. Royal Astron. Soc. Application of concave grating to celestial photography; flash spectra.—Eclipse phenomena; ultraviolet spectrum in vacuo.

Mitchell, Dr. S(ilas) Weir, 1524 Walnut St, Philadelphia, Pa. **Medicine, Physiology, Toxicology.* Philadelphia, Feb. 15, 29. Pennsylvania, 47; M.D, Jefferson Med. Col, 50. Physician, Presbyterian Hosp; Infirmary for Nervous Diseases; etc. Mem. Exec. Committee, Carnegie Inst; trustee, Pennsylvania. LL.D, Harvard, Edinburgh and Princeton; hon. M.D, Bologna. Nat. Acad; Am. Physicians; Path. Soc; Physiol. Soc; Philos. Soc; Am. Acad; Phila. Col. Physicians; British Med. Ass; Royal Med. and Chirurg. Soc; London Clin. Soc; Berlin Internal Med. Gesell; cor. mem. Acad. de Méd; Rome Reale Accad. d. Sci. Méd; Bologna Reale Accad; Christiana Sci. Soc. Medicine; diseases of nervous system; serpent poisons.—Poisons of serpents; reflexes of lower limbs.

Mitchell, Walter Reynolds, 433 57th St, Hyde Park, Chicago, Ills. *Biology.* Knox Co, O, 61. B.S, Illinois, 87; fellow, Chicago, 98–99. Instr. science, High Sch, Urbana, Ills, 87–88; Bement, 89–90; *head, Biol. Dept, Hyde Park High Sch, Chicago, 90–* Director science, Chicago Atheneum, 91–02; prof. biol. science, Michigan Summer Univ, 96–02. Bot. Cent. States; Chicago Biol. Club. Influence of environment on plants; rudimentary muscles in the glass snake.—Ecological problems; sociology.

Mixer, Fred(erick) K(nowlton), 313 Delaware Ave, Buffalo, N. Y. *Geology, Paleontology, Mineralogy.* Buffalo, June 24, 60. Yale, 80; Hopkins, 87–88. Instr. geol. and miner, Hobart, 85–86; curator, Buffalo Soc. Nat. Science, 92–99. M.A.A; Soc. Nat; Colo. Sci. Soc; Buffalo Soc. Nat. Sci. Inorganic geology; mineralogy.—Microscopical examinations of eruptive rocks of Colorado and New Mexico.

Mixter, Prof. W(illiam) G(ilbert), 250 Edwards St, New Haven, Conn. **Chemistry.* Dixon, Ills, Sept. 23, 46. Ph.B, Yale, 67, A.M, 87; Bunsen's Lab, 72–73; Hofmann's Lab, 73–74. Asst. *chem, Sheffield Sci. Sch, Yale,* 67–72, instr, 74–75, *prof, 75–* Chem. Soc; Chem. Gesell. Inorganic chemistry.—Some problems in thermal chemistry.

Moenkhaus, Prof. W(illiam) J, Bloomington, Ind. *Experimental biology.* Huntingburgh, Ind, Jan. 6, 71. A.B, Indiana, 94, A.M, 95; Harvard, 96–98; Chicago, 99–01, Ph.D, 03. Instr. zool, Indiana, 95–96; asst. director, State Mus, Sao Paulo, Brazil, 98–99; asst. prof. zool, *Indiana,* 01–04, *assoc. prof. physiol, 04–* Instr. zool, Williams, 99; embryol, Rush Med. Col, 01. F.A.A; Soc. Nat; fel. Ind. Acad. Variations of North American fishes; the development of the hybrids between Fundus treleroclitus and Menidia notata with especial reference to the behavior of the maternal and paternal chromatin.—Hybridization among fishes.

Mohler, Prof. John Frederick, 127 S. College St, Carlisle, Pa. **Physics.* Boiling Springs, Pa, Oct. 30, 64. A.B, Dickinson, 87, A.M, 90; fellow, Hopkins, 96, Ph.D, 97. Instr. math. and science, Wilmington Conf. Acad, Dover, Del, 87–90; math, Wesleyan Acad, Wilbraham, Mass, 90–94; *prof. physics, Dickinson, 96–* Asst, Observatory, Hopkins, 95–96. M.A.A; Physical Soc. Effect of pressure on wave-length of light; pressure in the electric spark; capillary action below zero.—The Doppler principle in spark discharges.

Mohler, Dr. John R(obbins), 2317 First St, N. W, Washington, D. C. *Pathology, Bacteriology.* Philadelphia, Pa, May 9, 75. A.B, Temple, 93; V.M.D, Pennsylvania, 96; V.M.D, Milwaukee Med. Col, 99. Asst. inspector, *Bur. Animal Indust, U. S. Dept. Agr,* 97–99, vet. inspector, 99–01, zoologist, 01–02, *chief, Path. Div, 02–* Vet. Med. Ass; Pub. Health Ass; D. C. Vet. Med. Ass. Tuberculosis, anthrax, rabies and other diseases of animals communicable to man.—Comparative pathology of the pancreas; comparative study of tubercle bacilli.

Moler, Prof. G(eorge) S(ylvanus), 408 University Ave, Ithaca, N. Y. **Physics.* Columbus, O, Oct. 4, 51. B.M.E, Cornell, 75; A.B, Hedding,

82. Instr. *physics, Cornell, 75–80, asst. prof, 80–* F.A.A.

Monroe, Prof. Joseph E(aton), Dillon, Montana. *Physics, Chemistry.* Xenia, O, Nov. 26, 64. A.B, Kas. Nor. Col, 87; Glasgow, 92–93. Instr. nat. science, Kas. Nor. Col, 87–92, *prof. physics and chem, 94–97; Mont. State Nor. Col, 97–* M.A.A; Chem. Soc; Mont. Acad. Elasticity and tenacity of copper and German silver wire; electrolysis of copper salts; petroleum bearing shales of Beaverhead County, Mont.

Monroe, Prof. Will(iam) S(eymour), Westfield, Mass. *Psychology, Pedagogy.* Hunlock Creek, Pa, March 22, 63. A.B, Stanford, 94; Jena, Leipzig and Paris, 94–95; Grenoble and Leipzig, 00–01. *Prof. psychol. and pedag, State Nor. Sch, Westfield, Mass, 96–* Assoc. ed, 'Pedag. Seminary.' Gold medal, Paris Expos, 00. F.A.A; Psychol. Ass; Anthrop. Ass; Nat. Educ. Ass. (pres, Child Study Dept, 99); Nat. Geog. Soc; hon. mem. Ass. Med. Officers of Am. Institutions for the Idiotic and Feeble-minded. Social sense of the child.—Defective and normal children.

Montague, Dr. W(illiam) P(epperrell), Columbia University, New York, N. Y. *Philosophy.* Chelsea, Mass, Nov. 24, 73. A.B, Harvard, 96, A.M, 97, Ph.D, 98. Docent *philos,* Harvard, 98–99; instr, California, 99–03; lecturer, *Columbia,* 03–04, tutor, 04–05, *instr, 05–* M.A.A; Philos. Ass; Psychol. Ass; N. Y. Acad; Univ. of Cal. Philos. Union. Time-perception.—Verification of Fechner's law.

Montgomery, Dr. Edmund, Hempstead or Austin, Tex. *Biology, Philosophy.* Edinburgh, Scotland, March 19, 35. Heidelberg, 52–54; Berlin, 55; Bonn, 56; Würzburg, 57; M.D, Prague, 58; Vienna, 59; M.R.C.P, London, 61. Res. physician, German Hosp, London, 60–61; med. attendant, Bermondsey Dispensary and Poor District, 61–62; pathologist, St. Thomas' Hosp, London, 61–64; practising physician, Maderia, Mentone and Rome, 65–70; Hempstead, 72–05. M.A.A; Tex. Acad. (pres, 03); hon. mem. London Aristot. Soc. The vital functions and the organization of the living substance, protoplasm.—Biological explanation of philosophical problems.

Montgomery, Rev. George R(edington), Northfield, Minn. *Philosophy.* Marash, Turkey, June 17, 70. A.B, Yale, 92, LL.B, 94, Berlin, 98; B.D, Yale, 00, Ph.D, 01. Lecturer *philos,* Yale, 00–04; *prof, Carleton 04–* Pastor, Olivet Congregational Church, Bridgeport, 01–02; war correspondent for 'London Standard.' Philos. Ass; Psychol. Ass. Philosophy; theology.—The place of values in epistemology; the relation between philosophy and theology.

Montgomery, Prof. Henry, University of Toronto, Toronto, Can. *Geology, Anthropology.* Cartwright, Ont, Nov. 11, 48. A.B, Toronto, 76, A.M, 77, Univ. Med. Sch, 77–79; B.S, Victoria, 80; Hopkins, 82; Ph.B, Ills. Wesleyan, 87, Ph.D, 03. Master science, Toronto Col. Inst, 76–81; lecturer zool, Toronto Sch. Med, 79–84; prof. nat. science and curator, Mus, North Dakota, 84–89; prof. nat. science, State Nor. Sch, Cortland, N. Y, 89–90; geol. and miner. and curator, Mus, Utah, 90–94; *prof. nat. science, examiner in geol. and curator, Mus, Trinity (Can.), 94–; curator, Mus, Toronto, 04–* Examiner biol, Toronto, 82–84; chairman, Exec. Committee, St. Hilda's Col, Toronto, 01. M.A.A; Geol. Soc; Statist. Ass; Wash. Anthrop. Soc; hon. mem. Toronto Nat. Hist. Soc. (pres, 79–81); cor. mem. Montreal Soc. Nat. Hist; fel. London Soc. Letters and Sci. Blastoidea of the rocks in the Province of Ontario; the aboriginal monuments of North Dakota; the remains of prehistoric man in Utah; minerals of Utah; structure of prehistoric burial mounds in North Dakota; relationship of the valley-dwellers and cliff-dwellers of Utah.—Prehistoric man in the United States and Canada; the paleontology of Ontario; aboriginal monuments of North Dakota.

Montgomery, Jack P(ercival), Agricultural College, Miss. *Chemistry.* Columbus, Miss, July 18, 77. A.B, Southwestern Presbyterian, 99; Ph.D, Virginia, 03. Instr. science, High Sch, Birmingham, Ala, 01–02; *asst. chem, Miss. Agr. and Mech. Col, 02–; asst. state chemist, Miss, 02–* Hon. A.M, Southwestern Presbyterian, 04. Chem. Soc; Ass. Off. Agr. Chemists; British Chem. Soc. Compounds of urea with acids and salts; estimation of nickel as the sulphid.—Methods of qualitative analysis; economic products of Mississippi.

Montgomery, Prof. Tho(ma)s H(arrison), Jr, University of Texas, Austin, Tex. **Zoology.* New York, N. Y, March 5, 73. Pennsylvania, 89–91; Ph.D, Berlin, 94. Asst. prof. *zool,* Pennsylvania, 98–03; *prof, Texas, 03–* Prof. biol. and director, Mus, Wagner Free Inst, Phila, 98–03. Soc. Nat; Soc. Zool; Philos. Soc; Phila. Acad. Anatomy of Nemertini, Gordii, Rotatoria and Insecta; classification and habits of birds and spiders; maturation of germ cells; principles of phylogeny.

Moody, Dr. Agnes M(ary) (Claypole), 125 Belvedere St, San Francisco, Cal. **Zoology, Geology.* Bristol, England, 70. Ph.B, Buchtel, 92; M.S, Cornell, 94; Ph.D, Chicago, 96. Instr. zool, Wellesley, 96–98, asst. histol. and embryol, Cornell, 98–00; zool. and geol, Throop, 00–01, instr, 01–03. Dept. Cytol, Embryol. and Micros. Methods, 'Jour. Applied Microscopy.' F.A.A; fel. S. Cal. Acad. Embryology; histology.

Moody, Dr. Herbert R(aymond), College of the City of New York, New York, N. Y. *Chemistry.* Chelsea, Mass, Nov. 19, 69. B.S, Mass. Inst. Tech, 92; A.M, Columbia, 00, Ph.D, 01. Asst. chem, Mass. Inst. Tech, 92–94, instr. anal. chem, 94–95; science, Gilbert Sch, Winsted, Conn, 95–99; *prof.* chem, Hobart, 01–05; *anal. chem, Col. City of N. Y, 05–* Chem. Soc; Soc. Chem. Indust. Properties of hydrogen peroxid; electrolysis of calcium chlorid; the production of hitherto unknown metallic borids; ethylene from inorganic sources; a comparison of the solubility

of acetylene and ethylene; improved electric furnace.

Moody, Dr. Mary B(lair), Fair Haven Heights, New Haven, Conn. *Medicine, Languages.* Barker, N. Y, Aug. 8, 37. M.D, Buffalo, 76. Founder and senior physician, Women's and Children's Dispensary, Buffalo, N. Y, 82–86. Book reviewer, 'Buffalo Med. and Surg. Jour'; assoc. ed, 'Bul. Buffalo Nat. Field Club.' M.A.A; Soc. Nat; Ass. Anat; Am. Med. Ass; Forestry Ass; Acad. Polit. and Social Sci; Ass. Protection of Adirondacks. General medicine; natural science; household economics; rearing and education of children and youth, their rights and necessities.—Flora of California; bird life in the United States.

Moody, Dr. Robert Orton, 125 Belvedere St, San Francisco, Cal. *Anatomy.* Buffalo, N. Y, Oct. 18, 64. B.S, Cornell, 91; M.D, Yale, 94. Instr. histol, Yale, 91–93, asst. path, 96–00; *anat,* Cornell, 00–01; *California,* 01–05, *instr, 05–* F.A.A; Ass. Anat; Micros. Soc. The muscular tunic of the large and small intestine in man and in the cat.—Development of the connective tissue in the thyroid gland; the transplantation of various tissues in the dog.

Moody, Prof. W(illia)m A(lbion), 60 Federal St, Brunswick, Me. *Mathematics.* Kennebunkport, Me, July 31, 60. A.B, Bowdoin, 82, A.M, 85; Harvard, 90–91. Teacher, secondary schools, 80–84; instr. *math, Bowdoin,* 84–87, *prof, 87–* M.A.A; Math. Soc.

Mooney, James, Bureau of American Ethnology, Washington, D. C. **American anthropology.* Richmond, Ind, Feb. 10, 61. Pub. schools. Teacher; printer, 80–85; *ethnologist, Bur. Am. Ethnol, 85–* Ethnol. expert, Columbian Expos, 93; Nashville, 96; Omaha, 98; La. Purchase, 04. Medals from various expositions. M.A.A; Anthrop. Ass; Folk-lore Soc; Nat. Geog. Soc; Wash. Anthrop. Soc; Wash. Acad. American anthropology, particularly of south Atlantic coast tribes, southern plains tribes (Kiowa, Cheyenne, etc.) and Cherokees.—Cherokee formulas; Pyote plant rite; Kiowa calendar history and heraldry; Cherokee myths.

Moore, Prof. A(ddison) W(ebster), 5603 Monroe Ave, Chicago, Ills. *Philosophy.* Plainfield, Ind, July 30, 66. A.B, De Pauw, 90, A.M, 93; Cornell, 93–94; fellow, Chicago, 94–95, Ph.D, 98; Berlin, 01–02. Principal, High Sch, Marion, Ind, 90–91; instr. English, De Pauw, 92–93; asst. *philos, Chicago,* 95–97, assoc, 97–98, instr, 98–01, asst. prof, 01–02, *assoc. prof, 02–* Philos. Ass; Psychol. Ass. Sensory and motor forms of reaction-time.—Representational versus functional logic in Locke; logical significance of the categories of existence, meaning and reality.

Moore, Prof. Andrew C(harles), Columbia, S. C. *Botany.* Spartanburg Co, S. C, Dec. 25, 66. A.B South Carolina, 87; fellow, Chicago, 98–99. Supt. city schools. Spartanburg, S. C, 87–88; Camden, S. C, 88–90; principal, High Sch, Birmingham, Ala, 90–98; asst. bot, Chicago, 00; *prof.* biol. and geol, *South Carolina,* 00–05, *biol, 05–* Lab. asst, Woods Hole, 02–03. The mitoses in the spore mother cell of Pallavicinia; sporogenesis in Pallavicinia.

Moore, Dr. Anne, State Normal School, San Diego, Cal. *Physiology.* Wilmington, N. C, Aug. 10, 72. A.B, Vassar, 96, A.M, 97, fellow, 99–00; fellow, Chicago, 00–01, Ph.D, 01. *Asst. biol,* Vassar, 98–99; *State Nor. Sch, San Diego, Cal, 01–* Effects of solutions of electrolytes upon muscular tissue.

Moore, Prof. Burton Evans, Lincoln, Nebr. *Physics.* Westerville, O, April 8, 66. A.B, Otterbein, 88; A.M, Cornell, 90; Strasburg, 93; Berlin, 94. Instr. *physics,* Lehigh, 91–92; Illinois, 94–95; *Nebraska,* 95–03, *prof, 03–* F.A.A; Physical Soc. Viscosity of certain salt solutions; polarization and resistance of the Leclanche cell; the lead cell; the copper voltameter; absorption spectra of ferric chlorid and of colloid ferric hydrate; absorption spectra of permanganates; absorption spectra of copper and cobalt.

Moore, Dr. C(harles) J(ames), University of Georgia, Athens, Ga. *Chemistry.* Flint Hill, Va, Aug. 9, 75. B.S, Va. Mil. Inst, 95; Ph.D, Virginia, 01; Harvard Summer Sch, 04. Instr. math, Horner Sch, Oxford, N. C, 96–98; prof. chem. and geol, West. Md. Col, 01–02; instr. *chem, Georgia,* 02–04, *adj. prof, 04–* Chem. Soc. Interaction of primary monamins and salts of certain metals.—Interaction of secondary and tertiary amins and salts of certain metals.

Moore, C(larence) B(loomfield), 1321 Locust St, Philadelphia, Pa. **Archeology.* Philadelphia, Jan. 14, 52. A.B, Harvard, 73. F.A.A; Philos. Soc. Aboriginal mounds of southern United States; aboriginal copper.—Aboriginal mounds of the Gulf Coast.

Moore, Dr. C(larence) L(emuel) E(lisha), Massachusetts Institute of Technology, Boston, Mass. *Mathematics.* Ross Co, O, May 12, 76. B.S, Ohio State, 01; A.M, Cornell, 02, Ph.D, 04. *Instr. math, Mass. Inst. Tech, 04–* Math. Soc. Geometry of the sphere.—Geometry of the circle in space.

Moore, D(aniel) McFarlan, 173 N. 19th St, East Orange, N. J. *Electrical engineering.* Northumberland, Pa, Feb. 27, 69. Lehigh, 90. Engineer, Gen. Elec. Co, 90–94; *inventor and gen. manager, Moore Elec. Co, 94–* Elec. Eng; N. Y. Elec. Soc. Electric lightning; current control; vacuum phenomena; the 'Moore Electric Light.' —Light without heat; wireless telegraphy.

Moore, Prof. E(liakim) H(astings), 5607 Monroe Ave, Chicago, Ills. **Mathematics.* Marietta, O, Jan. 26, 62. A.B, Yale, 83, Ph.D, 85; Berlin, 85–86. Instr. math, Acad, Northwestern, 86–87; tutor, Yale, 87–89; asst. prof, Northwestern, 89–91, assoc. prof, 91–92; prof. *math.* and acting head of dept, *Chicago,* 92–96, *prof. and head of dept, 96–* Hon. Ph.D, Göttingen, 99; LL.D, Wisconsin, 04. Nat. Acad; F.A.A; Math. Soc. (v. pres, 98–00, ed, 'Trans,' 99–, pres, 00–02); Am. Acad; Philos. Soc; Lon-

don Math. Soc; Math. Verein; Circolo Mat. di Palermo. Group theory and theory of numbers with applications; improper definite integrals.—Functions of real variables; foundations.

Moore, Prof. E(rnest) C(arroll), 1227 Washington St, San Francisco, Cal. *Philosophy, Education.* Youngstown, O, July 20, 71. A.B, Ohio Nor. Univ, 92, LL.B, 94; A.M, Columbia, 96; fellow, 97–98; Ph.D, Chicago, 98. Asst. philos, *California*, 98–99, instr, 99–01, *educ*, 01–02, *asst. prof, 02–* Pres, State Board Charities and Corrections, Cal, 03; dean, Summer Session, California, 05– M.A.A; Soc. Sci. Educ; Cal. Council Educ. History of education; educational psychology and methods.—Education in the Middle Ages; formal discipline.

Moore, Prof. F(orris) J(ewett), 220 Marlborough St, Boston, Mass. *Chemistry.* Pittsfield, Mass, June 9, 67. A.B, Amherst, 89; Ph.D, Heidelberg, 93. Lab. asst, Amherst, 89–90; instr. gen. chem, Cornell, 93–94; asst. anal. chem, *Mass. Inst. Tech*, 94–95, *instr*, 95–02, *asst. prof*, 02–04, *org. chem, 04–* Chem. Soc; Mass. Inst. Tech. Soc. Arts; Chem. Gesell. Organic chemistry.

Moore, Dr. George Dunning, 201 Salisbury St, Worcester, Mass. *Chemistry.* Louisville, Ky, June 14, 62. A.B, Harvard, 84; Ph.D, Bonn, 87. Asst. to Prof. Aug. Kekulé, director of Chem. Lab, Bonn, 86–87; instr. chem, Worcester, 89–90, asst. prof, 90–94; *chem. engineer, 94–* M.A.A; Chem. Soc; Soc. Chem. Indust; fel. Am. Acad; Chem. Gesell. Organic chemistry.

Moore, Dr. George T(homas), U. S. Department of Agriculture, Washington, D. C. **Cryptogamic botany.* Indianapolis, Ind, Feb. 23, 71. B.S, Wabash, 94; A.B, Harvard, 95, A.M, 96, Ph.D, 00. Asst, Crypt. Lab, Harvard, 97–99, instr. crypt. bot, Radcliffe, 98–99; in charge, Bot. Dept, Dartmouth, 99–01; physiologist and alogologist, Bur. Plant Indust, U. S. Dept. Agr, 01–02, in charge, Lab. Plant Physiol, 02–05. Instr. crypt. bot, Woods Hole, 96–; lecturer econ. bot, Dartmouth, 01–; on contamination of water supplies, Thayer Sch. of Eng; co-editor, 'Bot. Centralblatt'; ed. Algae, 'Century Dict.' revision. F.A.A; Bot. Soc; Soc. Plant Morph. and Physiol. (pres, 04); Soc. Bact; Philos. Soc; Wash. Bot. Soc. Morphology and physiology of the Algae, contamination of water supplies by Algae and the fixation of free nitrogen by root tubercle organisms.—Soil and other economic bacteria; unicellular Algae.

Moore, Dr. J(ohn) Percy, 3215 Summer St, Philadelphia, Pa. **Zoology.* Williamsport, Pa, May 17, 69. A.B, Central High Sch, Phila, 86; B.S, Pennsylvania, 92, Ph.D, 96. Asst. instr. *zool, Pennsylvania, 90–92, instr, 92–; asst. curator, Acad. Nat. Sciences, Phila, 02–* Scientific asst, U. S. Fish Commission, intermittently, 90–; instr. biol, Hahnemann Med. Col, 96–98; zool, Woods Hole, 01–; lecturer, Ludwick Inst, 02– Soc. Zool; Phila. Acad. (cor. sec'y, 02–); Soc. zool. de France. Morphology of annelids and vertebrates; economic biology of fishes.—Biology of Hirudinea and Chaetopoda.

Moore, Mrs. J. Percy (Kathleen Carter), 3215 Summer St, Philadelphia, Pa. *Psychology.* Philadelphia, Nov. 14, 66. Certificate, Pennsylvania, 90; Barnard, Columbia, 92; Ph.D, Pennsylvania, 96. Teacher, various schools, 82–88; asst. comp. embryol. and histol, Pennsylvania, 90–91; bot, Barnard, 91–92; private tutor, 99–00; *head, Bardwell Sch, Phila.* Psychol. Ass. The psychology of childhood.

Moore, Dr. J(oseph) H(aines), Lick Observatory, Mt. Hamilton, Cal. *Astrophysics.* Wilmington, O, Sept. 7, 78. A.B, Wilmington, 97; Ph.D, Hopkins, 03. *Asst. spectros, Lick Observatory, 03–* Physical Soc; Astron. and Astrophys. Soc. Spectroscopy; absorption and fluorescent spectrum of sodium vapor; line of sight work.—Line of sight work.

Moore, Philip N(orth), 611 Laclede Building, St. Louis, Mo. *Geology, Mining, Metallurgy.* Connersville, Ind, July 8, 49. Miami, 70; Sch. of Mines, Columbia, 70–72. Asst, Mich. Geol. Surv, 72; Mo. Geol. Surv, 73; Ky. Geol. Surv, 73–77; metallurgist, Leadville, Colo, 78–81; mine manager and operator, Slate Creek Iron Co, Ky, 82–89; *consulting geologist and mining engineer, 89–* Manager and executive officer of various mining companies, Mont, Ky. and Ala, 97– F.A.A; Min. Eng; St. Louis Eng. Club.

Moore, Prof. R(ichard) B(ishop), Butler College, Indianapolis, Ind. *Chemistry.* Cincinnati, O, May 6, 71. Univ. Col, London, 86–90; British Mus, 93–95; B.S, Chicago, 96. Instr. *chem*, Birkbeck Inst, London, 91–93; Missouri, 97–05; *prof, Butler, 05–* Chem. Soc. Reaction between carbon dioxid and soluble nitrites; reactions between hydroxids of the alkaline earths and solutions of copper salts; radioactivity of Missouri waters.

Moore, Dr. V(eranus) A(lva), 914 E. State St, Ithaca, N. Y. *Pathology, Bacteriology.* Jefferson Co, N. Y, April 13, 59. B.S, Cornell, 87; M.D, Columbian, 90. Chief, Div. Animal Path, Bur. Animal Indust, U. S. Dept. Agr, 95–96; *prof. comp. path, bacter. and meat inspection, N. Y. State Vet. Col, Cornell, 96–* Ass. Path. and Bact; Soc. Bact; Vet. Med. Ass; Am. Med. Ass; N. Y. State Med. Ass. Pathology and bacteriology.

Moore, Prof. Vida F(rank), 756 Park Place, Elmira, N. Y. *Philosophy.* Steuben, Me, June 25, 67. Ph.B, Wesleyan, 93, M.S, 97; fellow, Cornell, 99–00, Ph.D, 00. Instr. philos, Mt. Holyoke, 93–96; teacher psychol. and English, Emma Willard Sch, Troy, N. Y, 00–01; *prof. philos, Elmira, 01–* Philos. Ass. Metaphysics; psychology.

Moore, Prof. Willis L(uther), 1312 19th St, N. W, Washington, D. C. **Meteorology.* Scranton, Pa, Jan. 18, 56. Pub. schools and private instruction. Observer, *U. S. Weather Bur*, 76, local forecast official, 91–94, prof. meteorol, 94–95, *chief, 95–* Ed, 'Wisconsin Climate and Crop. Jour'; 'Moore's Meteorol. Almanac.'

LL.D, Norwich. F.A.A; Nat. Geog. Soc. (pres.); Wash. Acad; hon. mem. Typog. Union.

Moorehead, Warren K(ing), 118 Main St, Andover, Mass. *American archeology.* Scena, Italy, March 10, 66. Denison, 86. *Curator, Mus,* Ohio State, and State Archeol. Soc, 94–97; *Phillips Acad, 01–* Asst, Dept. Anthrop, Smithsonian Inst, 89–90; Columbian Expos, 91–93; ed, 'Archeologist,' 94–95. Medal, Madrid Expos, 92; Columbian Expos, 93; hon. A.M, Dartmouth, 01. F.A.A. (sec'y, H, 93); Wash. Acad; Victoria Inst. Primitive man in Ohio; Ohio Valley Indians.—Prehistoric implements; the stone age.

More, Prof. Louis T(renchard), University of Cincinnati, Cincinnati, O. **Physics.* St. Louis, Mo, April 9, 70. B.S, Washington (St. Louis), 92; fellow, Hopkins, 94–95, Ph.D, 95. Instr. *physics,* Worcester, 96; demonstrator and asst. prof, Nebraska, 96–00; *prof, Cincinnati, 00–* Physical Soc; Math. Soc; Soc. de Physique. Electrical stress in the ether; double refraction of light.—Electrostriction; Kerr effect.

Moreno, Dr. H(alcott) C(adwalader), Box 92, Palo Alto, Cal. *Mathematics.* Gainesville, Ga, Nov. 2, 73. A.B, Georgia, 93, A.M, 94, B.L, 96; scholar and fellow, Clark, 97–00, Ph.D, 00. Tutor math, Georgia, 93–97; asst, Clark, 00–01; instr. *applied math, Stanford,* 01–04, *asst. prof, 04–* Math. Soc. Ruled loci in *n*-fold space; non-Abelian groups in which every sub-group is Abelian.—A class of ruled loci.

Morgan, A(ndrew) P(rice), Harrison, O. **Botany.* Centerville, O, Oct. 27, 36. Mycol. Soc; Cincinnati Soc. Nat. Hist. Fungi; Myxomycetes.

Morgan, Dr. Herbert R(ollo), Morrison Observatory, Glasgow, Mo. *Astronomy, Mathematics.* Medford, Minn, March 21, 75. Fellow, Virginia, A.B, 99, Ph.D, 01. Prof. math, Pantops Acad, Va, 00–01; computer, Naval Observatory, 01–05; *prof. astron. and higher math, Pritchett, and director, Morrison Observatory, 05–* Astron. and Astrophys. Soc. Satellites of Saturn; comet orbits; transit circle observations.

Morgan, Dr. James D(udley), 919 McPherson Square, Washington, D. C. *Medicine.* Washington, July 5, 61. A.B, Georgetown, 81; Law Sch, Columbian, 81; Bellevue Med. Col, 83; M.D, Georgetown, 85; Beaujon Hosp, Paris, 85, 86. Demonstrator anat, *Med. Col, Georgetown,* 88–89, asst. internal med, 96–98, *prof. clin. med, 99–* Interne, Children's Hosp, 85; lecturer differential diagnosis, Med. Col, Georgetown, 97–98; physician, Garfield Hosp, 99; internal med, Emergency Hosp, 04; ed, 'Trans. Med,' D. C, 98–00. Ass. Anat; Am. Med. Ass. (sec'y, 91–95, v. pres, 96); D. C. Med. Soc. (v. pres, 02). Laryngology; the vascular system of the human body.

Morgan, Prof. (John) H(arcourt) A(lexander), University of Tennessee, Knoxville, Tenn. *Zoology, Entomology.* Strathroy, Ont, Aug. 31, 67. B.S.A, Ont. Agr. Col, and Toronto, 89. Prof. entom. and zool, La. State Univ. and Agr. and Mech. Col, and entomologist, La. Exp. Sta, 89–05; director, Gulf Biol. Sta, 00–05; *prof. zool. and entom, Tennessee, and director, Exp. Sta, 05–* Asst. commissioner for La, Atlanta Expos, 95. M.A.A; Ass. Econ. Entom; Soc. Prom. Agr. Sci; La. Nat. Soc. (pres, 00–01). Louisiana insects.—Louisiana and Tennessee insects and ticks.

Morgan, Prof. J(ohn) Livingston R(utgers), 139 New St, New Brunswick, N. J. **Physical chemistry.* New Brunswick, June 27, 72. B.S, Rutgers, 92; Ph.D, Leipzig, 95. Asst. chem, Stevens, 95–96; instr. quant. anal, Brooklyn Polytech, 96–97; tutor *physical chem, Columbia,* 97–01, adj. prof, 01–05, *prof, 05–* Physical Soc; Chem. Soc; Electrochem. Soc; fel. London Chem. Soc. Electrochemistry; ionic reactions. —Law of mass action as applied to electrolytes.

Morgan, Prof. T(homas) H(unt), Columbia University, New York, N. Y. **Biology.* Lexington, Ky, Sept. 25, 66. B.S, Ky. State, 86, M.S, 88; Ph.D, Hopkins, 90, Bruce fellow, 00–01. *Prof.* biol, Bryn Mawr, 91–04; *exp. zool, Columbia, 04–* Soc. Nat; Soc. Zool; Soc. Exp. Biol. and Med; N. Y. Acad. Experimental embryology and regeneration; the development of the frog's eggs; evolution and adaptation.

Morgan, Dr. W(illia)m Conger, 2440 Hillside Ave, Berkeley, Cal. *Chemistry.* Albany, N. Y, June 21, 74. A.B, Yale, 96, Silliman fellow, 96–99, Ph.D, 99. Prof. *chem,* Washburn, 00–02; *instr, California, 02–* M.A.A; Chem. Soc; Chem. Gesell. Stereochemistry of nitrogen; origin of bitumens; analytical methods.—Constitution of nitrosamins.

Moritz, Prof. Robert E(douard), University of Washington, Seattle, Wash. *Mathematics, Physics, Astronomy.* Christiansthal, Germany, 68. B.S, Hastings, 92; Ph.M, Chicago, 96; Ph.D, Nebraska, 01; Ph.D, Strasburg, 02. Prof. math. and physics, Hastings, 93–98; instr. *math,* Nebraska, 98–02, adj. prof, 02–03, asst. prof, 03–04; *prof, Washington (Seattle), 04–* Math. Soc; Nebr. Acad. Extension of the differentiation process; transcendance of π; continuants and their applications to the number theory; representation of numbers as quotients of sums and differences of perfect squares; the fundamental theorem in algebra; Sherman principle in rhetoric and its restrictions; functional relations of sentence constants; local probability. —Generalization of the De Morgan processes.

Morley, Prof. Edward W(illiams), Adelbert College, Cleveland, O. **Chemistry, Physics.* Newark, N. J, Jan. 29, 38. A.B, Williams, 60, A.M, 63. *Prof. chem, Western Reserve, 69–* Prof. chem, Cleveland Med. Col, 73–88. LL.D, Adelbert, 91; Williams, 01; hon. Ph.D, Wooster. U. S. delegate, Third Conf. Gen. des Poids et Mesures, 01. Nat. Acad; F.A.A. (sec'y, Subsect. Micros, 76, v. pres, 79, 83, pres, 95); Astron. and Astrophys. Soc; Chem. Soc. (pres, 99); Philos. Soc; assoc. fel. Am. Acad; for. mem. London Chem. Soc; cor. mem. British Ass; hon. mem. Royal Inst. Atomic weight of oxygen;

density of oxygen and hydrogen; variations in amount of oxygen in air; vapor density of mercury from 0 to 100°; repetition of Michelson-Morley experiment in view of Lorentz-Fitzgerald suggestion of change of dimension of matter due to translation in luminiferous ether.

Morley, Prof. F(rank), 2026 Park Ave, Baltimore, Md. **Mathematics.* Woodbridge, England, Sept. 9, 60. A.B, Cambridge, 83, A.M, 87, Sc.D, 97. Instr. *math,* Haverford, 87–88, *prof,* 88–00; *Hopkins, 00–* Ed, 'Am. Jour. Math,' 00– Math. Soc. (v. pres, co-editor, 'Bul.'); Philos. Soc; London Math. Soc. Geometry.—Apolarity.

Morrey, Dr. Cha(rle)s B(radfield), 188 W. 10th Ave, Columbus, O. *Bacteriology.* Chesterhill, O, Nov. 5, 69. A.B, Ohio State, 90; M.D, Starling Med. Col, 96; Vienna and Pasteur Inst, Paris, 97–99. Asst. Latin, *Ohio State,* 90, Latin and physiol, 91–92, physiol, 92–97, asst. prof, 99–02, assoc. prof, 02–03, *bacter,* 03–04, *prof, 04–;* lecturer *physiol, Starling Med. Col,* 99–03, *prof, 04–* Acting prof. chem, Starling Med. Col, 96–97. M.A.A. Accuracy of the glance and localization on the periphery of the retina.—Bacterial enzymes.

Morrill, Prof. A(lbro) D(avid), Clinton, N. Y. **Neurology.* Northfield, N. H, Aug. 29, 54. B.S, Dartmouth, 76, M.S, 79; Michigan, 76–77. Teacher science and math, Acad, Lewiston, Pa, 78–83; *prof,* Belmont Col, College Hill, O, 83–88; biol. and geol, Ohio (Athens), 88–91; chem. and biol, *Hamilton,* 91–96, *biol, 96–* Soc. Nat; Soc. Zool. Nerve endings in pectoral appendages of Prionotus; nerve endings in auditory epithelium of Galeus.—Histogenesis of the auditory nerve; regeneration of nerve tissue in planarians.

Morris, E(dward) L(yman), 1679 31st St, N. W, Washington, D. C. *Botany.* Monson, Mass, Oct. 23, 70. A.B, Amherst, 91, A.M, 95. Lab. asst. and instr. biol, Amherst, 93–95; instr. bot. and chem, Western High Sch, Washington, D. C, 95–96, biol. and chem, 96–98; director bot, *Washington high schools,* 98–00, *head, Dept. Biol, 00–* Special plant expert, U. S. Nat. Herbarium and U. S. Dept. Agr, 98–; field asst, U. S. Fish Commission, 00; assoc. ed, 'Sch. Science,' 01; assoc. examiner, Col. Entrance Exam. Board, 02. M.A.A; Wash. Bot, Biol. and Entom. Societies; Wash. Biologists' Field Club (sec'y and treas, 01); Torrey Bot. Club. Flora and fauna of District of Columbia and vicinity; taxonomy of Plantaginaceae.—Taxonomy of North and South American Plantaginaceae.

Morris, Dr. J(ames) Cheston, 1514 Spruce St, Philadelphia, Pa. *Medicine, Biology.* Philadelphia, May 28, 31. A.B, Pennsylvania, 51, A.M, M.D, 54. Physician, House of Indust, Phila, 54–58; asst. surgeon, Prot. Epis. Hosp, 57–58, attending physician, 58–72; pres, Va. Mining and Improv. Co, 72–05. Physician, Foster Home for Children, 55–60; contract surgeon, U. S. A, 62–64; pres, Med. Board, The Sheltering Arms, 70–05. Am. Acad. Med. (treas, 90–82); Philos. Soc. (curator, 89–01); Phila. Acad. (director, Biol. and Micros. Dept), 96–05); Phila. Col. Physicians; Phila. Co. Med. Soc; Franklin Inst. Practical medicine; food, water and milk supply; biology.

Morris, Dr. Roger S(ylvester), Johns Hopkins Hospital, Baltimore, Md. *Medicine.* Ann Arbor, Mich, Sept. 24, 77. A.B, Michigan, 00, M.D, 02. Instr. internal med. and demonstrator clin. med, Michigan, 03–05; *asst. res. physician, Hopkins Hosp, 05–* Ass. Path. and Bact. The action of X-rays on the blood; hemolysins in urine.—Changes in internal organs in experimental anemia.

Morris, Dr. S(eth) M(abry), Galveston, Tex. *Chemistry.* Austin, Tex, June 15, 67. B.S, Texas, 88; M.D, Columbia, 91. *Prof. chem. and toxicol, Med. Dept, Texas, 92–* Tex. Med. Ass; S. Tex. Med. Ass. Medical electricity; chemistry of digestion.

Morrison, Dr. Joseph, 1757 P St, N. W, Washington, D. C. *Mathematics, Astronomy, Medicine.* Oxford, Ont, 48. A.M, Middlebury, 69; M.B, Toronto, 72; A.M, Acadia, 72; Ph.D, Syracuse, 84. Mem. Med. Council, Col. Physicians and Surg, Ont, 72–79, examiner chem, 72–78; asst. astronomer, 'Am. Ephemeris' and 'Nautical Almanac,' 81–94. Civil service examiner, U. S. Scientific Bur, 85–88; prof. chem. and toxicol, Med. Dept, National Univ, 84–89. Hon. mem. Toronto Astron. and Astrophys. Soc. Astronomy; mathematics; physics; medicine; special perturbations and the mass of Hyperion; general perturbations and the perturbative function; the transits of Mercury and Venus; etc.—The source and maintenance of solar energy.

Morrow, Prof. W(illiam) S(tairs), Medical Faculty, McGill University, Montreal, Can. *Physiology.* Halifax, N. S, Dec. 25, 69. M.D, C.M, McGill, 91; Breslau, 98–99. Asst. demonstrator and lecturer *physiol, McGill,* 93–04, *asst. prof, 04–* Montreal Medico-Chirurg. Soc; British Med. Ass. Venous pulse; tobacco poisoning; mechanism of respiration; physiological apparatus.

Morse, Albert P(itts), Wellesley, Mass. *Entomology, Ornithology.* Sherborn, Mass, Feb. 10, 63. Summer Sch. of Entom, Cornell, 90; Woods Hole, 93. *Asst, Zool. Lab, Wellesley, 88–, curator, Zool. Mus, 90–* Instr. zool, Teachers' Sch. Science, Boston, 01–; research asst, Carnegie Inst, 03; custodian, South Natick Nat. Hist. Soc. M.A.A; Boston Soc. Nat. Hist; Cambridge Entom. Club; cor. mem. N. Y. Entom. Soc. Orthoptera, especially Acridiidae of North America; New England entomology and ornithology.

Morse, Dr. Edward S(ylvester), Peabody Academy of Science, Salem, Mass. **Zoology, Ethnology, Japanese ceramics.* Portland, Me, June 18, 38. Lawrence Sci. Sch, Harvard, 59–62; special student under Prof. Agassiz. Prof. comp. anat. and zool, Bowdoin, 71–74; zool, Imperial Univ,

Tokyo, 77–80; *director, Peabody Acad, 80–; keeper Japanese pottery, Museum of Fine Arts, Boston, 92–* Mem. Jury of Awards, Columbian Expos, 93; Pan-Am. Expos, 01; La. Purchase Expos, 04. Commander, Order of the Dawning Sun, Japan; hon. Ph.D, Bowdoin; A.M, Harvard. Nat. Acad; F.A.A. (gen. sec'y, 72, sec'y, B, 75, v. pres, 76, pres, 86); Soc. Nat; Soc. Zool; fel. Am. Acad; Philos. Soc; Antiq. Soc; Oriental Soc; cor. mem. Numis. and Antiq. Soc; cor. mem. Am. Inst. Archit; cor. mem. N. Y. Acad; Essex Inst; cor. mem. Phila. Acad; Boston Soc. Nat. Hist; hon. mem. Boston Soc. Archit; cor. mem. British Ass; fel. London Soc. Arts; cor. mem. Berlin Anthrop. Gesell; London Japan Soc; Swedish Soc. Anthrop. and Geog; hon. mem. Japan Aquatic Ass. Brachiopoda; New England Mollusca.

Morse, E(lisha) W(ilson), 47 Patten St, Jamaica Plain, Mass. *Biology.* Brockton, Mass, April 20, 66. Mass. Agr. Col, 91; B.A.S, Harvard, 97. *Instr. nat. hist, Bussey Inst, Harvard, 97–* Instr. econ. biol, Sharon Biol. Observatory, summer, 02. Boston Soc. Nat. Hist. Peach yellows disease.—Cause of hair-slope in mammals; history of domestication of cattle.

Morse, Prof. Fred W(inslow), Durham, N. H. *Chemistry.* Berlin, Mass, Dec. 6, 65. B.S, Worcester, 87, M.S, 00. Asst. chem, Mass. Exp. Sta, 87–88; *N. H. Exp. Sta,* 88–89, *chemist, 89–; prof.* chem, *N. H. Col. Agr. and Mech. Arts,* 90–92, *org. chem, 02–; v. director, N. H. Exp. Sta, 96–* M.A.A; Chem. Soc; Ass. Off. Agr. Chemists. Agricultural chemistry; analytical methods; vegetation experiments; phosphates of iron and alumina; composition of plants.—Fermentation of corn silage; effect of cold storage on fruits; forcing house fertilizers; development of sugar in maize.

Morse, Prof. H(armon) N(orthrop), The Cecil, Baltimore, Md. **Chemistry.* Cambridge, Vt, Oct. 15, 48. A.B, Amherst, 73; Ph.D, Göttingen, 75. Instr. chem, Amherst, 75–76; assoc. and assoc. prof, *Hopkins,* 76–91, *prof. anal. chem, 91–* Philos. Soc; Wash. Acad. Atomic weights of cadmium and zinc; acetylamidophenols; determination of butter in milk; reduction of permanganic acid by manganese peroxid; electrolytic preparation of permanganic acid; action of metallic cadmium on halogen salts of cadmium; preparation of osmotic membranes by electrolysis; cells for the measurement of high osmotic pressures; etc.—Osmotic pressure.

Morse, Dr. H(arry) W(heeler), Cambridge, Mass. *Physics, Physical chemistry.* San Diego, Cal, Feb. 25, 73. A.B, Stanford, 97; Ph.D, Leipzig, 02. *Instr. physics, Harvard, 02–* Physical Soc. Diffusion in gelatine; spectra of luminescences of various kinds; spectra of fluorescence and phosphorescence.—Comparison of spectra from various sources.

Morse, Dr. John Lovett, 70 Bay State Road, Boston, Mass. *Medicine.* Taunton, Mass, April 21, 65. A.B, Harvard, 87, A.M, M.D, 91. Asst. clin. med, *Harvard Med. Sch,* 96–00, *instr. diseases of children, 00–* Asst. physician, Children's Hosp; Infants' Hosp; visiting physician, Floating Hosp. Am. Physicians; Am. Med. Ass; Pediat. Soc; Mass. Med. Soc; Boston Soc. Med. Improv. Medicine.

Morse, Prof. W(arner) J(ackson), 148 Colchester Ave, Burlington, Vt. *Botany, Bacteriology.* Waterbury, Vt, Oct. 30, 72. B.S, Vermont, 98, M.S, 03. Principal pub. schools, Lyon Mountain, N. Y, 93–94; Berlin, N. H, 98; teacher nat. sciences, Montpelier Sem, 99–01; *asst. prof. bacter, Vermont, and asst. botanist, Vt. Exp. Sta, 01–* M.A.A; Vt. Bot. Club. Physiological studies of maple sap flow; diseases of plants.—Bacterial soft rots of vegetables.

Morton, Dr. Darwin A(bbot), Care Solvay Process Company, Syracuse, N. Y. *Chemistry.* Groton, N. Y, Feb. 26, 72. B.S, Cornell, 95, Ph.D, 99. Teacher, pub. sch, 89–91; asst. chem, Cornell, 95–96, instr, 98–99, asst, 99–00; *chemist, Solvay Process Co, 00–* Syracuse Chem. Soc. The isomeric modifications of anethol; methods of commercial analysis.

Moseley, E(dwin) L(incoln), Sandusky, O. *Zoology, Botany, Physiography.* Union City, Mich, March 29, 65. A.M, Michigan, 85. *Teacher, High Sch,* Grand Rapids, Mich, 85–87; *Sandusky, 89–* F.A.A; Nat. Geog. Soc; Ohio Acad. (sec'y, 95–03, pres, 04). Geographical distribution of birds and of phenogams; changes in level of Lake Erie due to earth movements.—Submerged valleys in Sandusky Bay; preglacial valley crossing Erie and Huron counties, Ohio.

Moser, Capt. Jeff(erso)n F(ranklin), U. S. N, 49 Second St, San Francisco, Cal. *Oceanography, Hydrography, Ichthyology.* Allentown, Pa, May 3, 48. Grad, U. S. Naval Acad, 68. Promotions from midshipman to *capt, U. S. N, 68–* Mem. four expeditions on Isthmus of Darien and in Nicaragua, 69–75; on coast surv. service, 75–96; hydrog. inspector, U. S. Coast and Geod. Surv, 95–96; mem. Fur-Seal Commission, 96, 97; in command 'Albatross' on fishery investigations and oceanography, 96–02; on Agassiz South Sea Exped, 99–00. F.A.A; Naval Inst; Wash. Philos. Soc. Salmon fisheries of Alaska.

Moses, Prof. Alfred J(oseph), 452 W. 144th St, New York, N. Y. *Mineralogy, Crystallography.* Brooklyn, N. Y, July 25, 59. E.M, Columbia, 82, Ph.D, 90; Munich, 95–96. Asst. *miner, Columbia,* 82–85, instr, 85–89, adj. prof, 90–97, *prof, 97–* Ed, 'Sch. of Mines Quarterly,' 85–02, and manager, 85–95. F.A.A; Min. Eng; fel. N. Y. Acad; Soc. de Minéralogie. Crystals from mathematical and physical standpoints; methods of determination in minerals.—Origin and occurrence of minerals.

Moses, Dr. Tho(ma)s F(reeman), Worcester Lane, Waltham, Mass. *Archeology, Geology.* Bath, Me, June 8, 36. A.B, Bowdoin, 57, A.M, 60; M.D, Jefferson Med. Col, 61. Prof. nat. science, Urbana, 70–86, pres, 86–94. Acting asst. sur-

geon, U. S. A, 62–64; mem. Exam. Board, U. S. Surgeons for Pensions, Urbana, 89–92. F.A.A; Anthrop. Ass; Am. Acad. Med. Archeological work in ancient mounds of Ohio; geology of Champaign County, Ohio; water supply of Urbana, Ohio.

Mott, Prof. William E(lton), 174 Harvard St, Brookline, Mass. *Civil engineering.* Burlington, N. J, Jan. 24, 68. Pennsylvania, 84–85; B.S, Mass. Inst. Tech, 89. Asst, Mass. Inst. Tech, 89–90; practising civil engineer, 90–92; instr. civil eng, Cornell, 92–01, asst. prof, 01–05; *assoc. prof. hydraul. eng, Mass. Inst. Tech, 05–* Assoc. mem. Civil Eng; Franklin Inst. Hydraulic engineering.

Mottier, Prof. David M(yers), Bloomington, Ind. **Botany.* Patriot, Ind, Sept. 4, 64. A.B, Indiana, 91, A.M, 92; Ph.D, Bonn, 97. Instr. *bot, Indiana,* 91–93, assoc. prof, 93–98, *prof, 98–* F.A.A; Bot. Soc; Bot. Cent. States; Nat. Cent. States. Cytology and fecundation in Spermaphyta; embryology of archegoniates; centrifugal force upon the cell.—Cytology of reproductive cells; fecundation.

Moulton, Prof. C(harles) W(illiam), 19 Virginia Ave, Poughkeepsie, N. Y. *Chemistry.* Elmira, N. Y, May 6, 59. A.B, Minnesota, 85; Ph.D, Hopkins, 89. Instr. chem. and physics, Shattuck Sch, Faribault, Minn, 85–87, 89–92; assoc. prof. *chem, Vassar,* 92–94, *prof, 94–* Chem. Soc; Soc. Chem. Indust.

Moulton, Dr. F(orest) R(ay), University of Chicago, Chicago, Ills. **Mathematics, Celestial mechanics.* LeRoy, Mich, April 29, 72. A.B, Albion, 94; Ph.D, Chicago, 99. Instr. *astron,* Albion, 92–94; *asst. prof, Chicago, 96–* Asst. ed, 'Jour. Geog,' 02– F.A.A; Math. Soc; Astron. and Astrophys. Soc; fel. Royal Astron. Soc; Circolo Mat. di Palermo. Resistance to comets passing through sun's corona; criteria of temporary stability of satellite motion; problem of four bodies; problem of *n* bodies; determination of orbits from spectroscopic observations; nebular hypothesis; general method of determining orbits; foundations of geometry.—Periodic solutions of problem of three bodies; nebular hypothesis; convergency of series used in celestial mechanics.

Moyer, James Ambrose, 17 Perkins Hall, Cambridge, Mass. *Engineering.* Cedars, Pa, Sept. 13, 75. B.E, State Nor. Sch, West Chester, Pa, 93; B.S, Harvard, 99, Austin fellow, 00–01, A.M, 04. Draftsman for Lieut. Commander Roy C. Smith, 99; *instr. descriptive geom. and eng, Harvard, 01–* Chief computer, Research Lab, Gen. Elec. Co. M.A.A; Eng. Educ; Acad. Polit. and Social Sci; Franklin Inst; Boston Soc. Civil Eng; Boston Math. and Physical Club; Boston Econ. Club. Explosive mixtures in gas engine cylinders; continuous engine indicators.—Steam turbines; turbine air compressors.

Muckenfuss, Prof. A(nthony) M(oultrie), University, Miss. *Chemistry.* Charleston, S. C, Aug. 5, 69. A.B, Wofford, 89, A.M, 90; Ph.D, Hopkins, 95. *Prof. chem,* Millsaps, 93–02; Arkansas, 02–05; *Mississippi, 05–* State chemist, Ark. M.A.A; Chem. Soc; Soc. Chem. Indust; Miss. Hist. Soc. Parasulphamin benzoic acid; mineral and industrial resources of Mississippi.

Muhlberg, Prof. W(illia)m, 1811 Josephine St, Mt. Auburn, Cincinnati, O. *Physiology, Pathology.*. Cincinnati, April 8, 75. Cincinnati, 94–95; M.D, Ohio Med. Col, 97; Bern, 98; Berlin, 99. Asst. *physiol,* Harvard Med. Sch, 99–00; *prof, Cincinnati, and Laura Mem. Col, 01–* Interne, Cincinnati Hosp, 97–98. Am. Med. Ass; Cinn. Acad. Med. Nervous mechanism of deglutition; shock in spinal cord lesions; suprarenal extract as a stimulant.—Functions of posterior spinal ganglia cells.

Muir, Dr. John, Martinez, Cal. *Geology, Natural history.* Dunbar, Scotland, April 21, 38. Wisconsin. Student of wildernesses. Hon. A.M, Harvard; LL.D, Wisconsin. F.A.A; Wash. Acad. Geology; botany; discovered Muir Glacier.

Mulliken, Dr. S(amuel) P(arsons), 51 Bromfield St, Newburyport, Mass. **Chemistry.* Newburyport, Dec. 19, 64. B.S, Mass. Inst. Tech, 87; Ph.D, Leipzig, 90; fellow, Clark, 90–91. Asst. chem, Cincinnati, 88–89; assoc, Bryn Mawr, 91–92; instr. and acting head, Dept. Chem, Clark, 92–94; instr. and later *asst. prof. org. chem, Mass. Inst. Tech, 95–* F.A.A; Chem. Soc. Organic chemistry.—General method for identification of organic compounds by systematic procedure based on physical properties and chemical behavior.

Mumford, Prof. Frederick B(lackmar), Columbia, Mo. *Agriculture.* Moscow, Mich. B.S, Mich. Agr. Col, 91, M.S, 93; Leipzig, 00; Zürich, 01. Asst, Mich. Agr. Exp. Sta, 91–95, asst. prof. *agr,* Mich. Agr. Col, 93–95; *prof, Missouri, 95–, acting dean, Col. Agr. and Mech. Arts and acting director, Exp. Sta, 03–* Animal nutrition; animal breeding.—Conditions determining birth weight of domestic animals; effects of in-breeding and cross-breeding; cattle feeding.

Mumford, Prof. Herbert W(indsor), Urbana, Ills. *Animal husbandry.* Moscow, Mich, Feb. 26, 71. Albion, 87–89; B.S, Mich. Agr. Col, 91. Instr. agr, Mich. Agr. Col, 95, asst. prof, 96–97, animal husbandry, 97–98, prof. agr. and experimenter with live stock, 98–00; *prof. animal husbandry, Illinois, and chief in animal husbandry, Ills. Exp. Sta, 01–* Soc. Prom. Agr. Sci. A comparison of fodders; the production and marketing of wool; comparison of silage and shock corn for beef production; market classes and grades of beef cattle.—Physical properties of meats; roughage for beef production; effects of feeds on the quality of pork; comparison of methods of feeding corn and clover for fattening steers.

Munro, Dr. John C(ummings), 173 Beacon St, Boston, Mass. *Surgery.* Lexington, Mass, March 26, 58. A.B, Harvard, 81, M.D, 85. Asst. anat, *Harvard Med. Sch,* 89–93, asst. demonstrator, 93–94, asst. *surg,* 94–03, *lec-*

turer, 03– Physician, St. Luke's Home, 87–94; surgeon to out-patients, Carney Hosp, 91–96; asst. visiting surgeon, Boston City Hosp, 93–03; prof. surg, Boston Dental Col, 97–03; consulting physician, St. Luke's Home, 01; consulting surgeon, Quincy Hosp, 02; surgeon-in-chief, Carney Hosp, 03– Ass. Anat; Surg. Ass; Am. Med. Ass; Soc. Clin. Surg; Mass. Med. Soc; Boston Soc. Med. Sci. Surgery.

Munroe, Prof. Charles E(dward), George Washington University, Washington, D. C. **Chemistry.* Cambridge, Mass, May 24, 49. B.S, Harvard, 71; Ph.D, Columbian, 94. Asst. chem, Harvard, 71–74; prof, U. S. Naval Acad, 74–86; chemist, U. S. N. Torpedo Sta. and War Col, 86–92; *prof. chem, George Washington, 92–* Mem. U. S. Assay Commission, 85, 90, 93; visitor, U. S. Naval Acad, 98; expert, Twelfth Census, 00–02. Commandant Order of Medjidje from Sultan of Turkey, 01. F.A.A. (sec'y, Subsect. Chem, 80, v. pres, 88); Chem. Soc. (pres, 98); Soc. Chem. Indust; Philos. Soc; Naval Inst. (ed, 'Proc,' 80–86); Am. Acad; Wash. Acad; Wash. Chem. Soc. (pres, 95); London Chem. Soc; Chem. Gesell. Explosives; analytical methods; chemical technology.

Munson, L(ewis) S(torms), U. S. Department of Agriculture, Washington, D. C. *Chemistry.* Corey, Mich, March 9, 73. B.S, Mich. Agr. Col, 97. Asst. chem, Mich. Agr. Col. Exp. Sta, 97–99; *chief of Contracts Lab, Bur. Chem, U. S. Dept. Agr, 99–* Chem. Soc. Composition and adulteration of foods.

Munson, Prof. W(elton) M(arks), Orono, Me. *Horticulture.* Howell, Mich, April 8, 66. B.S, Mich. Agr. Col, 88, M.S, 92; Ph.D, Cornell, 01. Asst. horticulturist, Agr. Exp. Sta, Cornell, 88–91; *prof. hort, Maine, and horticulturist, Exp. Sta, 91–* F.A.A; Soc. Prom. Agr. Sci; Soc. Hort. Sci; Pomol. Soc; Me. Pomol. Soc. (pres, 00–01); Mass. Hort. Soc. Plant breeding; secondary effects of pollination; horticultural status of genus Vaccinium; spraying of plants. —Variation of plants under culture; domestication of the blueberry; fertilization of flowers.

Münsterberg, Prof. Hugo, Harvard University, Cambridge, Mass. **Psychology.* Danzig, Germany, June 1, 63. Geneva, 82; Ph.D, Leipzig, 85; M.D, Heidelberg, 87. Privatdocent, Freiburg, 88–91, prof. extraordinary, 91; *prof. psychol, Harvard, 92–* Chairman, Philos. Dept, Harvard, 99–05. Hon. A.M, Harvard, 01; LL.D, Washington (St. Louis), 04. Int. Psychol. Cong, Paris (v. pres.); Int. Cong. Arts and Science, St. Louis, 04 (v. pres.). F.A.A; Soc. Nat; Psychol. Ass. (pres, 98); Philos. Ass; Wash. Acad. Experimental psychology of higher mental processes, especially attention, inhibition, volition, memory, esthetic feelings, space-perception, etc.

Murbach, Dr. L(ouis), 950 Cass Ave, Detroit, Mich. *Biology.* Java, O, July 5, 64. Ph.B, Michigan, 89, B.S, 90; Ph.D, Leipzig, 94; fellow, Chicago, 95. Teacher zool, High Sch, Detroit, 90, instr, Michigan, 91; asst, Zool. Inst, Leipzig, 93; biol, Chicago, 95; *head, Dept. Biol, High Sch, Detroit, 96–* Assoc. ed, 'Sch. Science,' 01–; instr, Woods Hole, four seasons. M.A.A. Coelenterata; nettling organs and life history of Gonionemus; Hypolytus peregrinus, n. g.—Medusae from the coast of British Columbia and Alaska; the anatomy and activities of Gonionemus.

Murdoch, John, 38 Whiting St, Roxbury, Mass. *Zoology, Ethnology.* New Orleans, La, July 9, 52. A.B, Harvard, 73, A.M, 76. Science teacher, High Sch, Chelsea, Mass, 77–78; private tutor, Peekskill, N. Y, 78–80; acting prof. zool, Wisconsin, 80–81; naturalist, Point Barrow Exped, 81–83; asst. librarian, U. S. Nat. Mus, 86–87; librarian, Smithsonian Inst, 87–92; *asst, Catalog. Dept, Boston Pub. Library, 96–* F.A.A; Anthrop. Ass; mem. Ornith. Union; Boston Soc. Nat. Hist; Wash. Philos. Soc. Ethnology of the Eskimos.

Murdoch, L(ester) H(ughes), 1713 Fourth St, N. W, Washington, D. C. *Meteorology.* Peoria, Ills, Jan. 19, 69. Kas. State Nor. Sch, 87–90; Med. Dept, Columbian, 96–98. Sect. director, U. S. Weather Bur, Salt Lake City, 99–02; Galveston, 03–04. Nat. Geog. Soc. Fluctuations in water level of Great Salt Lake; precipitation cycles.

Murlin, Dr. J(ohn) R(aymond), 338 E. 26th St, New York, N. Y. *Physiology, Biology.* Anglaize Co, O, April 30, 74. B.S, Ohio Wesleyan, 97, A.M, 99; fellow, Pennsylvania, 99–01, Ph.D, 01. Instr. physiol. and zool, Ohio Wesleyan, 97–98; prof. biol, Ursinus, 01–03; *instr. physiol, Univ. and Bellevue Hosp. Med. Col, 03–* M.A.A; Soc. Zool; Soc. Exp. Biol. and Med. Absorption and secretion in Crustacea.—Food value of gelatin.

Murray, Prof. D(aniel) A(lexander), Dalhousie College, Halifax, N. S. *Mathematics.* Scotsburn, N. S, May 23, 62. A.B, Dalhousie, 84; Ph.D, Hopkins, 93. Tutor *math,* Dalhousie, 85–87; assoc. prof, N. Y. Univ, 90–94; instr, Cornell, 94–01; *prof, Dalhousie, 01–* F.A.A; Math. Soc.

Murrill, Dr. Paul (Ingold), Woodbury, N. J. *Chemistry.* Hickory, N. C, July 11, 74. B.S, Ky. State, 95, M.S, 96; Ph.D, Michigan, 99, fellow, 99–00. Acting prof. chem, Ala. Polytech, 00–01; asst. chemist, nutrition investigations, U. S. Dept. Agr, Middletown, 02–03; *research chemist, East. Lab, E. I. du Pont Powder Co, Chester, Pa, 03–* Chem. Soc; N. Y. Chemists Club.

Musser, Dr. J(ohn) H(err), 1927 Chestnut St, Philadelphia, Pa. **Medicine.* Strasburg, Pa, June 22, 56. M.D, Pennsylvania, 77. Quiz master in practice of med. and instr. med, Med. Inst, Phila, 80–84; instr. *clin. med, Med. Dept, Pennsylvania,* 81–84, asst. prof, 89–90, *prof, 99–* Res. physician, Phila. Hosp, 77–78; med. registrar, Univ. Hosp, 79, chief, Med. Dispensary, 80–86; pathologist, Presbyterian Hosp, 84–88; physician, Phila. Hosp, 85–; Presbyterian Hosp, 87–; consulting physician, West. Phila. Hosp. for Women, 89; Woman's Hosp, 90; Rush Hosp.

for Consumption, 90; Jewish Hosp, 04; Chestnut Hill Hosp, 05; Germantown Hosp, 05. Am. Physicians (mem. Council, 93–98); Am. Med. Ass. (chairman, Sect. Med, 90, 97, pres, 05); Path. Soc. (pres, 93–97); Climat. Ass. (v. pres.); Pediat. Soc; Pa. Med. Soc; hon. mem. Va. Med. Sci; Phila. Co. Med. Soc. (v. pres, 90, pres, 98); Phila. Col. Physicians; Phila. Neur. Soc; hon. mem. Ont. Med. Soc. Clinical medicine.

Myers, Dr. Burton D(orr), University of Indiana, Bloomington, Ind. **Histology.* Attica, O, March 30, 70. Ph.B, Buchtel, 93; A.M, Cornell, 00; M.D, Leipzig, 02. Supt. schools, Greenwich, O, 93–97; asst. physiol, Cornell, 98–00; *anat*, Hopkins, 02–03, instr, 03; assoc. prof. and *head, Dept. Anat, Indiana, 03–05, junior prof, 05–* M.A.A; Ass. Anat; Micros. Soc. (mem. Exec. Committee, 99–00); Am. Med. Ass. Optic chiasma; commissures on floor of third ventricle.—Lung lobule; bone marrow.

Myers, E(dward) W(arren), Greensboro, N. C. *Hydraulics.* Washington, N. C, Oct. 30, 73. B.S, North Carolina, 95. Res. hydrographer, U. S. Geol. Surv, 95–02; engineer in charge water-power investigations, N. C. Geol. Surv, 96–02; asst. engineer, *Reclamation Service, U. S. Geol. Surv, 03–04, engineer, 05–* M.A.A; Nat. Geog. Soc; assoc. Civil Eng. Steam hydraulics.

Myers, Prof. George W(illiam), 6444 Greenwood Ave, Chicago, Ills. *Mathematics, Astronomy.* Champaign Co, Ills, April 30, 64. B.L, Illinois, 88, M.L, 91; Ph.D, Munich, 96. Instr. math. and astron, Illinois, 88–90, asst. prof, 90–95, assoc. prof, 95–97, prof, 97–00; head, Dept. Math. and Astron, Chicago Inst, 00–01; *prof. teaching math. and astron, Chicago, 01–* Assoc. ed, 'Sch. Science,' 00–; course of study, Sch. of Educ, Chicago; math. ed, 'School Science and Math,' 05. F.A.A; Math. Soc; Astron. and Astrophys. Soc; Astron. Gesell; Soc. astron. de France; Soc. Belge d'Astron. Variable stars; mathematical pedagogy.—Teaching of astronomy and mathematics.

Myers, Prof. William S(hields), 15 Union St, New Brunswick, N. J. *Chemistry, Ceramics, Sanitation.* Albany, N. Y, Dec. 15, 66. B.S, Rutgers, 89, M.S, 94. Asst. chemist, N. J. Exp. Sta, 88–89; chemist, Lister Agr. Chem. Works, 92–93; instr. and assoc. prof. chem, N. J. State Agr. Col, Rutgers, 93–01; *director, Nitrate of Soda Propaganda for U. S. and Colonies, 01–* Mem. N. J. Geol. Surv, 93–01; mayor, New Brunswick, 04–05. F.A.A; Chem. Soc; Soc. Chem. Indust; British Ass; fel. London Chem. Soc. Waters, soils and clays of New Jersey. —Effects upon crops of sodium nitrate.

N

Nachtrieb, Prof. Henry F(rancis), 905 Sixth St, S. E, Minneapolis, Minn. *Zoology.* Near Galion, O, May 11, 57. German Wallace, 74–77; B.S, Minnesota, 82; Hopkins, 83–85, fellow, 84–85. Instr. zool, *Minnesota*, 85–87, *prof. animal biol. and curator, Zool. Mus, 87–; zoologist, Minn. Geol. and Nat. Hist. Surv, 87–* Ed, 'Zool. Reports,' Minn. Geol. and Nat. Hist. Surv. F.A.A; Soc. Nat; Soc. Zool; Breeders' Ass; Minn. Acad. (pres, 92). Anatomy and embryology; echinoderms of Beaufort, N. C.—Anatomy and embryology of the pied-billed grebe and of the ganoids of Minnesota.

Nagle, Prof. James C, College Station, Tex. *Civil engineering.* Richmond, Va, Oct. 9, 65. B.S, Texas, 89, A.M, 92; C.E, Western Univ. of Pa, 92; M.C.E, Cornell, 93. Rodman and asst. engineer on various railroads, 87–88; topographer, Tex. Geol. Surv, 89–90; *prof.* civil eng. and physics, *Tex. Agr. and Mech. Col, 90–99, civil eng, 99–* Draftsman, Pgh. Bridge Co, 92; chief engineer, Brazos and Burleson R. R, 94; asst. chief engineer, H. E. and W. T. R. R, 99–00; agent and expert in irrigation investigations, U. S. Dept. Agr, 00–03. F.A.A; Civil Eng; Eng. Educ; Tex. Acad. (past pres.). Railroad engineering; irrigation engineering.—Sediment carrying capacity of certain rivers as affecting irrigation storage reservoirs.

Nash, George V(alentine), N. Y. Botanical Garden, New York, N. Y. **Botany.* Brooklyn, N. Y, May 6, 64. M.A.A; Torrey Bot. Club. Gramineae.

Nason, Frank L(ewis), Lock Box 6, West Haven, Conn. *Geology.* New London, Wis, May 12, 56. A.B, Amherst, 82, A.M. Instr. math, Rensselaer, 82–88; asst, N. J. Geol. Surv, 88–91; Mo. Geol. Surv, 91–92; *consulting geologist and mining engineer, 92–* Supt. placer mine, British Columbia, 95–97; gold mine, Colorado, 98–01, F.A.A; Geol. Soc; Min. Eng. Structural economic geology; ore deposits.

Neal, Prof. Herbert V(incent), Knox College, Galesburg, Ills. **Biology.* Lewiston, Me, April 3, 69. A.B, Bates, 90; A.B, Harvard, 93, A.M, Ph.D, 96; studied under Kupffer, 96–97. Master hist. and Latin, St. Paul's Sch, 90–92; asst. zool, Harvard and Radcliffe, 93–95; *prof. biol, Knox, 97–* F.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist. Morphology of vertebrate head; development of hypoglossus musculature; histogenesis of ventral nerves.—Development and histogenesis of nerves in Acanthias.

Needham, Prof. James G(eorge), Lake Forest, Ills. **Biology.* Cass Co, Ills, March 18, 68. B.S, Knox, 91, M.S, 93; Hopkins, 93–94; Goldwin Smith fellow, Cornell, 96, Ph.D, 98. Instr. science, High Sch, Jerseyville, Ills, 91–93; *biol*, Knox, 94–96; *prof, Lake Forest, 98–* Entomologist in charge, N. Y. State Field Sta. for Study of Aquatic Insects, 00–; assoc. ed, 'Am. Naturalist'; 'Psyche'; 'Nature Study Rev.' F.A.A; Soc. Nat; Soc. Zool; N. Y. Entom. Soc; Wash. Biol. Soc; Boston Soc. Nat. Hist; Entom. Gesell; Soc. entom. de France. Biology of insects.—Life histories of aquatic insects; systematic study of Perlidae, Ephemeridae and Odonata.

Nef, Prof. J(ohn) U(lric), 6018 Jackson Park Ave, Chicago, Ills. **Chemistry.* Herisau, Switzerland, June 14, 62. A.B, Harvard, 84,

Kirkland fellow, 84–87; Ph.D, Munich, 86. Prof. chem, Purdue, 87–89; asst. prof. chem. and acting head of Lab, Clark, 89–92; *prof. chem. and head, Dept. Chem, Chicago, 92–* Nat. Acad; F.A.A. (sec'y, C, 93); Chem. Soc; fel. Am. Acad; Upsala Royal Soc. Sci. Organic chemistry.—Dissociation phenomena in glycol glycerin series and in the sugar group, with a view to explaining the chemistry of fermentation.

Neher, Prof. F(red), Princeton, N. J. *Chemistry.* Troy, N. Y, April 30, 67. A.B, Princeton, 89, A.M, 91; fellow, Chicago, 96–98. Asst. chem, *Princeton,* 91–92, instr, 92–98, asst. prof. *org. and anal. chem,* 98–03, *prof. and head, Dept. Chem, 03–* Chemist, U. S. Fish Commission, 90. Chem. Soc; Chem. Gesell. Determination of arsenic.—Derivatives of halogenated ethers.

Nehrling, Henry, Palm Cottage, Gotha, Fla. *Ornithology, Horticulture, Botany.* Howard's Grove, Wis, May 9, 53. Nor. Sch, Addison, Ills, 69–73. Teacher, parochial schools, 73–87; sec'y and custodian, Milwaukee Pub. Mus, 90–03. Deputy collector, U. S. Customs, Milwaukee, 87–90. Fel. Ornith. Union; Wis. Acad; Wis. Nat. Hist. Soc; cor. mem. Nuttall Ornith. Club; hon. mem. Agassiz Ass; Berlin Ornith. Gesell. North American birds; Amaryllidaea; Araceae; Scitaminaceae; Palmae; semitropical plants growing in Florida.

Neikirk, Dr. L(ewis) I(rving), 103 E. Nyack Ave, Lansdowne, Pa. *Mathematics.* Central City, Colo, Dec. 10, 73. B.S, Colorado, 98, M.S, 01; Harrison fellow, Pennsylvania, 01–03, Ph.D, 03, research fellow, 03– Math. Soc. Abstract groups whose order is a power of a prime.—Groups of order p^m containing cyclic sub-groups of order p^{m-3}.

Nelson, Prof. A(lfred) B(rierley), 443 W. Lexington Ave, Danville, Ky. *Mathematics.* Washington Co, Pa, March 14, 44. A.B, Centre (Ky.), 64, A.M, 67; M.D, Pennsylvania, 74. Instr. *math,* Centre (Ky.), 64–69, *prof,* 76–01; *Central Univ. of Ky, 01–* F.A.A; Math. Soc.

Nelson, Prof. Aven, Laramie, Wyo. **Botany.* Keokuk, Ia, March 24, 59. A.B, M.S.D, Mo. State Nor. Sch, 83; M.S, Drury, 90; A.M, Harvard, 92; Ph.D, Denver, 04. Instr. English and biol, Drury, 83–85; principal pub. schools, Ferguson, Mo, 85–87; *prof. biol, Wyoming, 87–* In charge, Lab, Columbian Expos; La. Purchase Expos. F.A.A; Wash. Biol. Soc; St. Louis Acad; Int. Ass. Bot. Systematic, physiological and economic botany.—Economic and systematic botany.

Nelson, E(dward) W(illiam), U. S. Department of Agriculture, Washington, D. C. *Ornithology, Mammalogy, Ethnology.* Manchester, N. H, May 8, 55. Cook Co. Nor. Sch, 75. *Field naturalist, U. S. Dept. Agr, 91–* Fel. Ornith. Union; Wash. Acad; Wash. Biol. Soc. North American birds and mammals; Eskimos of Alaska.—Birds and mammals of Mexico; biological survey of Mexico.

Nelson, Elias (E), Bend, Ore. *Horticulture.* Sweden, Sept. 7, 76. A.B, Wyoming, 98, A.M, 99. *Scientific aid, U. S. Dept. Agr, 00–;* asst. hort. and agrost, Wyoming, 01–04; *supt, D. I. and P. Exp. Farm, Bend, Ore, 05–* Grasses and forage plants.—Germination of the seeds of saltbushes; grasses and forage plants for arid regions.

Nelson, Dr. Ja(me)s A(llen), 317 E. Buffalo St, Ithaca, N. Y. *Zoology.* Urbana, O, April 29, 75. Ph.B, Kenyon, 98; Ph.D, Pennsylvania, 03; hon. fellow, Cornell, 04– Asst. zool, Pennsylvania, 03. M.A.A; assoc. Ornith. Union; Ohio Acad; Phila. Acad. Embryology of Dinophilus.—Anatomy of Dinophilus; palpi of spiders.

Nelson, Prof. Julius, Adelaide Ave, Highland Park, New Brunswick, N. J. *Biology, Bacteriology.* Copenhagen, Denmark, March 6, 58. B.S, Wisconsin, 81, M.S, 84; fellow, Hopkins, 86–88, Ph.D, 88. *Prof. biol, Rutgers, and biologist, N. J. Agr. Col. Exp. Sta, 88–* Biologist, N. J. State Tuberculosis Commission, 94–95. N. J. Micros. Soc. (pres, 96–97). Bovine tuberculosis; oyster culture; dairy bacteriology.—Ecology of oyster development under special state appropriation.

Nelson, Dr. N(elson) L(awrence) T, 3968 Laclede Ave, St. Louis, Mo. *Botany.* B.S, Carleton, 91; Ph.D, Chicago, 99. Principal, High Sch, Pine Isl, Minn, 91–93; supt. pub. schools, Benson, Minn, 94–96; dean, Defiance, 00–01; *instr. bot, Central High Sch, St. Louis, 01–* M.A.A; Bot. Cent. States. Taxonomy; ecology; bryology.

Neufeld, Prof. J(ulius) L(ederer), Central High School, Philadelphia, Pa. *Mathematics.* Vienna, Austria, April 26, 72. E.E, Lehigh, 94. Instr. math. and drawing, *Central High Sch, Phila,* 94–00, asst. prof. *math,* 00–03, *prof, 03–* Math. Soc.

Newbold, Prof. W(illia)m Romaine, University of Pennsylvania, Philadelphia, Pa. **Philosophy.* Wilmington, Del, Nov. 20, 65. A.B, Pennsylvania, 87, Ph.D, 91. Teacher Latin, Cheltenham Mil. Acad, 87–89; instr, *Pennsylvania,* 89–91, lecturer *philos,* 90–94, asst. prof, 94–03, *prof, 03–,* dean, Dept. Philos, 96–04. Ed, Psychol. Dept, 'Am. Naturalist,' 95–96. Psychol. Ass; Philos. Ass. Suggestibility, automatism and kindred phenomena.—Aristotle, metaphysics and psychology; Pythagoreanism.

Newcomb, H(arry) T(urner), Bond Building, Washington, D. C. *Jurisprudence, Economics, Statistics.* Owosso, Mich, Jan. 4, 67. LL.B, Columbian, 90, LL.M, 91. Chief of Sect, Div. of Statist, U. S. Dept. Agr, 95–99; instr. statist, Corcoran Sci. Sch, Columbian, 97–01; expert chief, Div. Agr, Twelfth Census, 99–01; ed, 'Railway World,' 01–03; *lawyer, 03–* F.A.A. (sec'y, 00, v. pres, 03); Statist. Ass; Econ. Ass; Acad. Polit. and Social Sci; Royal Statist. Soc. Methods and principles of industrial association; history and theory of railway charges.

Newcomb, Prof. S(imon), 1620 P St, Washington, D. C. **Astronomy.* Wallace, N. S, March 12, 35. B.S, Harvard, 58. Computer, 'Nautical Almanac,' 57–61; *prof. math, U. S. N, 61–*, senior prof. math, and director, 'Nautical Almanac' Office, 77–97; prof. math, *Hopkins, 83–95, emer. prof. math. and astron, 95–* Sec'y, U. S. Transit of Venus Commission, 71–74; observed transit of Venus, Cape of Good Hope, 82; ed, 'Am. Jour. Math,' 88–94, 99–00. LL.D, Columbian, 74; Yale, 75; Harvard, 84; Columbia, 87; Edinburgh, 91; Cambridge, Glasgow and Princeton, 96; Toronto, 99; Hopkins, 02; hon. Math. and Ph.Nat.D, Leyden, 75; Ph.D, Heidelberg, 86; Sc.D, Dublin, 92; Cambridge, 96; Cracow, 00; Ph.Nat.D, Padua, 92; Math.D, Christiania, 02; gold medal, Royal Astron. Soc, 74; Huygens medal, Leyden, 78; Copley medal, Royal Soc, 90; Bruce medal; Officier Légion d'honneur. Nat. Acad. (v. pres, 83–89, for. sec'y, 02–); F.A.A. (gen. sec'y, 68, pres, 77); Astron. and Astrophys. Soc. (pres.); Math. Soc; Physical Soc; fel. Am. Acad; Philos. Soc; for. mem. Royal Astron. Soc; for. mem. Royal Soc; hon. mem. Royal Inst; cor. mem. British Ass; for. assoc. Inst. de France; Academies of St. Petersburg, Berlin, Munich, Vienna, Rome, Amsterdam, Brussels, Stockholm, Upsala, etc. Mathematical astronomy.—Theory of the moon's motion.

Newcombe, Prof. Frederick C(harles), 1021 E. University Ave, Ann Arbor, Mich. **Plant physiology.* Flint, Mich, May 11, 58. B.S, Michigan, 90; Ph.D, Leipzig, 93. Teacher, Mich. Sch. for Deaf, 80–87; instr. *bot, Michigan,* 90–02, asst. prof, 93–97, junior prof, 97–05, *prof, 05–* Int. Cong. Arts and Science, St. Louis, 04 (sec'y, Sect. Plant Physiol.). F.A.A. (sec'y, G, 97); Bot. Soc; Soc. Plant Morph. and Physiol; Bot. Cent. States. Perennial mycelium blackberry rust; influence of mechanical resistance on life period of cells; cause and condition of lysigenous cavity formation; regulatory formation of mechanical tissue; rheotropism of roots; Sachs' angeblich thigmotropische Kurven an Wurzeln waren traumatisch; kinostats and centrifuges for research; etc.—Geotropism and heliotropism.

Newell, F(rederick) H(aynes), 1827 Phelps Place, Washington, D. C. **Hydrography.* Bradford, Pa, March 5, 62. B.S, Mass. Inst. Tech, 85. *Chief engineer, Reclamation Service, U. S. Geol. Surv, 88–* F.A.A; Civil Eng; Nat. Geog. Soc; Am. Geog. Soc. Water supply of the United States for power, irrigation and other industrial purposes.

Newell, Prof. Lyman C(hurchill), 226 Clifton St, Malden, Mass. *Chemistry.* Pawtucket, R. I, Sept. 18, 67. Ph.B, Brown, 90, A.M, 91; Ph.D, Hopkins, 95. Instr. *chem,* Brown, 90–91; High Sch, Pawtucket, R. I, 91–92; Somerville, Mass, 95–98; Nor. Sch, Lowell, Mass, 98–04; *prof, Boston, 04–* Assoc. ed, 'Sch. Science.' Chem. Soc; New Eng. Ass. Chem. Teachers (pres, 98–99). Organic and historical chemistry.

Newell, W(illiam) W(ells), Cambridge, Mass. **Folk-lore.* Cambridge, Jan. 24, 39. Harvard, 59. *Ed, 'Jour. Am. Folk-lore,' 88–* F.A.A; Folk-lore Soc. (permanent sec'y). Folk-lore.—Sources of the medieval romances relating to the 'Matter of Britain.'

Newkirk, Dr. Burt L(eroy), University of California, Berkeley, Cal. *Astronomy.* Ellenville, N. Y, May 1, 76. A.B, Minnesota, 97, A.M, 99; Ph.D, Munich, 02. Asst. astron, Minnesota, 98–00; Watson asst, *California,* 03–04, *instr. math, 04–* Math. Soc; Pacific Astron. Soc. (co-editor); Astron. Gesell; Math. Verein. Parallax of ring nebula in Lyra; orbits of Watson asteroids.—Tables for reduction of photographic measures; the Repsold measuring apparatus of the Student's Observatory of the University of California.

Newland, David H(ale), Geological Hall, Albany, N. Y. *Geology.* Vienna, N. Y, April 7, 72. A.B, Hamilton, 94; Munich, 94; Heidelberg, 95–96; Columbia, 96–97. Temporary field asst, N. Y. State Geol. Surv, 97–98; literary and scientific work, 98–03; assoc. ed, 'Eng. and Mining Jour,' 04; *asst. state geologist, N. Y, 05–* M.A.A; Min. Eng. Petrographic and economic geology.

Newsom, Prof. J(ohn) F(lesher), Stanford University, Cal. *Geology, Mining.* Elizabethtown, Ind, Sept. 6, 69. A.B, Indiana, 91; A.M, Stanford, 92, Ph.D, 01. Instr. geol, Indiana, 95–96, asst. prof, 96–98; *mining, Stanford,* 99–01, *assoc. prof, 01–* Asst. geologist, Ark, 91–93. F.A.A; Soc. Nat; Geol. Soc; Min. Eng; Nat. Geog. Soc; Cal. Acad; fel. London Geol. Soc. Geology of the Santa Cruz mountains of California.

Newson, Prof. H(enry) B(yron), 1702 Massachusetts St, Lawrence, Kas. **Mathematics.* Mt. Gilead, O, July 10, 60. B.S, Ohio Wesleyan, 83; Hopkins, 83–84; Heidelberg, 86–87; Leipzig, 87–88; A.M, Ph.D, Ohio Wesleyan, 91. Instr. math. and sciences, Central Tenn. Col, 84–86; math. and sciences, Western Nor. Col, Bushnell, Ills, 88–90; asst. *math, Kansas,* 90–92, assoc. prof, 92–05, *prof, 05–* F.A.A; Math. Soc; Kas. Acad; Math. Verein; Circolo Mat. di Palermo. Theory of algebraic forms; groups of collineations.—A new theory (synthetic) of collineations and their continuous groups.

Newson, Dr. Mary W(inston), 1702 Massachusetts St, Lawrence, Kas. *Mathematics.* Forreston, Ills, Aug. 7, 69. A.B, Wisconsin, 89; fellow, Bryn Mawr, 91–92; fellow by courtesy, Chicago, 92–93; Ass. Col. Alumnae fellow, 95; Ph.D, Göttingen, 96. Instr. math, Fox Lake, Wis, 89–91; High Sch, St. Joseph, Mo, 96–97; prof. math, Kas. State Agr. Col, 97–00. Math. Soc. Hermite's form of Lamé's differential equation.

Nicholls, Dr. A(lbert) G(eorge), 2728 St. Catherine St, Montreal, Can. *Pathology.* England, April 16, 70. A.B, McGill, 90, A.M, 93, M.D, C.M, 94; Erlangen, Prague and Vienna, 96–97. Asst. pathologist, Royal Victoria Hosp, 97; lecturer *path, McGill,* 99–04, *asst. prof, 04–* Col-

laborator on ed. staff, 'Montreal Med. Jour'; clin. asst, Montreal Gen. Hosp, 04– Ass. Path. and Bact; Can. Med. Ass; Montreal Medico-Chirurg. Soc. Chronic Bright's disease; multiple progressive hyaloserositis; curative effect of various normal and antitoxic sera on tuberculosis.—The agglutinative phenomena produced by the serum of tuberculosis patients; relationship of tuberculosis and other affections.

Nichols, Dr. Edward H(all), 294 Marlboro St, Boston, Mass. *Surgery.* Reading, Mass, Jan. 6, 64. A.B, Harvard, 86, A.M, M.D, 92. Junior asst. surgeon, Children's Hosp, 97–00; instr. *surg. path, Harvard Med. Sch,* 98–04, *asst. prof, 04–* Asst. visiting surgeon, Boston City Hosp, 98– Ass. Path. and Bact; Soc. Clin. Surg. Pathology of surgical diseases; congenital dislocation of the hip joint; club foot; tuberculosis of bones and joints; acute infectious osteomyelitis; relation of blastomycetes to cancer; transplantation of tissue and its relation to cancer.—Repair of tissues; arthritis deformans.

Nichols, Prof. Edward L(eamington), 5 South Ave, Ithaca, N. Y. **Experimental physics.* Leamington, England, Sept. 14, 54. B.S, Cornell, 75; Leipzig, 75–76; Berlin, 76–78; Ph.D, Göttingen, 79; fellow, Hopkins, 79–80. *Prof.* physics and chem, Central Univ. of Ky, 81–83; physics and astron, Kansas, 83–87; *physics, Cornell, 87–* Founder, 'Physical Rev,' and ed, 93–; sec'y, Chamber of Delegates, Elec. Cong, Chicago, 93; ed, Dept. Physics, 'Johnson's Cyclopedia' and 'Webster's Dict'; mem. visiting committee, Bur. Standards, 01– Nat. Acad; F.A.A. (sec'y, B, 89, v. pres, 93); Physical Soc; Elec. Eng; Philos. Soc; Am. Acad; hon. mem. Nat. Elec. Light Ass; Kas. Acad. (pres, 85). Radiation; color; physiological optics; electricity; photometry.—Optical properties of carbon and of matter at low temperatures; fluorescence and phosphorescence.

Nichols, Prof. E(dward) W(est), Lexington, Va. *Mathematics.* Petersburg, Va, June 27, 58. Va. Mil. Inst, 74–78. Asst. prof. math, *Va. Mil. Inst,* 78–81, *prof.* applied math, 82–90, *math. and mech, 90–* S. Educ. Ass. Series.—Railway means of transport.

Nichols, Prof. E(rnest) F(ox), Columbia University, New York, N. Y. **Experimental physics.* Leavenworth, Kas, June 1, 69. B.S, Kas. State Agr. Col, 88; fellow, Cornell, 91–92, M.S, 93, Sc.D, 97. Asst. chem, Kas. State Agr. Col, 88–89; *prof.* physics, Colgate, 92–98; Dartmouth, 98–03; *exp. physics, Columbia, 03–* Collaborator, 'Astrophys. Jour,' 98– Hon. Sc.D, Dartmouth, 03; Rumford medal, Am. Acad, 05. F.A.A. (sec'y, B, 01, v. pres, 03); Physical Soc; Astron. and Astrophys. Soc. Radiation; radiometric researches in the remote infra-red spectrum; heat radiation of stars and planets.—Pressure of light and heat radiation; electrical resonance of long heat waves.

Nichols, Henry W(indsor), 227 E. 54th St, Chicago, Ills. *Geology.* Cohasset, Mass, Dec. 7, 68. B.S, Mass. Inst. Tech, 93. Asst. geol, Mass. Inst. Tech, 94; curator econ. geol, *Field Columbian Mus,* 95–97, *asst. curator geol, 97–* Agent, Am. Commission, Paris Expos, 00. Min. Eng; Chicago Acad.

Nichols, Dr. Herbert, 219 Commonwealth Ave, Newton Center, Mass. **Engineering, Physics, Psychology.* Walpole, N. H, Feb. 7, 52. B.S, Worcester, 71; Ph.D, Clark, 91. Engineer, Pa. R. R, 72–85; instr. psychol, Harvard, 91–93. Psychol. Ass. Psychology of time and space; cosmology.—Ethics; philosophy.

Nichols, Dr. M(ary) Louise, 3207 Summer St, Philadelphia, Pa. *Zoology.* Brookville, Pa, Feb. 19, 73. Pennsylvania, 90–91, 92–93; Woods Hole, 95–97, 00; Pennsylvania, 95–01, Ph.D, 01. Teacher zool, Phila. Nor. Sch, 93–02, zool. and geog, 02–05. M.A.A. Spermatogenesis of Oniscus asellus Linn, with especial reference to the history of the chromatin.

Nichols, O(thniel) F(oster), 42 Gates Ave, Brooklyn, N. Y. *Civil engineering.* Newport, R. I, July 29, 45. C.E, Rensselaer, 68. Civil engineer, Peruvian and Brazilian Rys, 70–79; engineer, various companies, 79–87; chief engineer, Brooklyn Union Elev. Ry, 88–95, gen. manager and chief engineer, 92–94; principal asst. engineer, New East River Bridge, 96–02, engineer in charge, 02–03; *chief engineer, Dept. Bridges, N. Y. City, 03–* Telford premium, British Inst. Civil Eng, 97. M.A.A; Civil Eng; Mech. Eng; fel. Am. Geog. Soc; N. Y. Eng. Club; Brooklyn Inst. (pres, Dept. Eng.); Brooklyn Eng. Club; Rensselaer Soc. Eng; British Inst. Civil Eng. Civil engineering; foundations; tunnels; steel and iron construction.

Nichols, Prof. T(homas) F(lint), Clinton, N. Y. *Mathematics.* Pownal, Me, Nov. 10, 70. A.B, Bowdoin, 92; fellow, Clark, 93–95, Ph.D, 95. Asst. math, Wisconsin, 95–96; asst. prof, *Hamilton,* 96–04, *prof. applied math, 04–* Asst. engineer, N. Y. State Engineer's Office, 05–Math. Soc. Geometry of plane algebraic curves.—The Jacobian curve of a bundle.

Nichols, Walter S(mith), 313 Washington St, Newark, N. J. *Actuarial science.* Newark, Nov. 23, 41. A.B, A.M, Princeton, 63. Ed, 'Insurance Monitor' and 'Insurance Law Jour,' 70–05; *v. pres, Ins. Publication Co.* Actuary and cousulting actuary for various corporations; director and trustee of several corporations; lecturer ins. law, Yale. M.A.A; Math. Soc; Actuarial Soc; Acad. Polit. and Social Sci. Mathematics and law of contracts, especially as applied to insurance; meteorology.

Nicholson, Prof. H(enry) Hudson, 638 N. 25th St, Lincoln, Nebr. **Chemistry, Mineralogy.* Rushford, Wis, May 25, 50. Antioch, '67–70; A.M, Lawrence, 74; Harvard, 84; Heidelberg and Berlin, 85. Prof. physical science, Nebr. State Nor. Sch, 74–82; chem, Nebraska, 82–05. Mem. U. S. Assay Commission, 99; consulting engineer, Ingold Placer Mining Co; Hamilton Mining Co. Chem. Soc; Min. Eng; Chem. Gesell. Substituted acrylic acids with elec-

trolytic separation of iron, nickel and zinc.—Gold ores of the Colorado sulphid belt; the calorimetric assay of copper.

Nickerson, Mrs. Margaret (Lewis), University of Minnesota, Minneapolis, Minn. **Histology, Embryology.* Akron, N. Y, Dec. 8, 70. A.B, Smith, 93; Ass. Col. Alumnae fellow, 96–97; A.M, Radcliffe, 97; M.D, Minnesota, 04. *Instr. histol. and embryol, Med. Dept, Minnesota, 98–* Soc. Zool.

Nickerson, Dr. W(infield) S(cott), 217 Beacon St, S.E, Minneapolis, Minn. **Zoology, Medicine.* Cotint, Mass, Nov. 2, 64. B.S, Harvard, 90, Sc.D, 94; M.D, Minnesota, 05. Acting prof. biol, Colorado, 94–95; instr, Northwestern, 95–96; *histol. and embryol, Minnesota, 97–99, asst. prof, 99–* Soc. Zool; Nat. Cent. States. Morphology of Vermes.—Embryology of Loxosoma Davenporti; morphology of several trematodes.

Niles, Prof. W(illia)m Harmon, Massachusetts Institute of Technology, Boston, Mass. **Geology, Geography.* Northampton, Mass, May 18, 38. B.S, Harvard, 66; Ph.B, Yale, 67. Prof. *geol. and geog, Mass. Inst. Tech,* 71–02, *emer. prof, 02–; prof. geol,* Boston, 72–02; *Wellesley, 88–* Hon. A.M, Wesleyan, 70; LL.D, Temple. F.A.A; Geol. Soc; Nat. Geog. Soc; fel. Am. Acad; Boston Soc. Nat. Hist. (pres, 92–97); cor. mem. N. Y. Acad; Appalachian Mt. Club (pres, 3 terms); New Eng. Meteor. Soc. (pres, 12 years). Compression and expansion of rocks from earth pressure; agency of glaciers; crinoids.

Nipher, Prof. Francis E(ugene), 1220 Hamilton Ave, St. Louis, Mo. **Physics.* Port Bryon, N. Y, Dec. 10, 47. Ph.B, Iowa, 70, A.M, 73. Instr, Physical Lab, Iowa, 70–74; *prof. physics, Washington (St. Louis), 74–* LL.D, Washington (St. Louis), 05. F.A.A. (sec'y, A, 78, sec'y, B, 83, v. pres, 91); Physical Soc; St. Louis Acad. Electricity; optics; photography; gravitating nebulae; wind pressures.—Wind pressures on buildings; ether waves by explosions.

Noble, Prof. Charles Albert, 2731 Durant Ave, Berkeley, Cal. *Mathematics.* Soquel, Cal, Aug. 14, 67. B.S, California, 89, fellow, 96–97; Ph.D, Göttingen, 01. Teacher *math,* High Sch, Oakland, Cal, 89; Boys' High Sch, San Francisco, 90–93; instr, *California,* 97–00, 01–03, *asst. prof, 03–* Math. Soc. Partial differential equations; calculus of variations.—Calculus of variations (relative minimum).

Norris, Dr. Charles, 44 W. 44th St, New York, N. Y. *Pathology, Bacteriology.* Hoboken, N. J, Dec. 4, 67. Ph.B, Yale, 88; M.D, Columbia, 92, Alumnus fellow, Col. Physicians and Surg, 96–97, 00–02; Göttingen and Vienna. Interne, Roosevelt Hosp, 93–94; tutor path, Columbia, 97–99; instr, Med. Sch, Cornell, 99–00; asst. bacter. and hygiene, Columbia, 02–03, instr, 03–04; *director, Laboratories of Bellevue and Allied Hospitals, 04–* Ass. Path. and Bact; Soc. Exp. Biol. and Med; N. Y. Path. Soc. The bactericidal action of lymph taken from the thoracic duct of the dog; influence of fasting on the bactericidal action of the blood; cases in which the bacillus aerogenes capsulatus was isolated; broncho-pneumonia with streptothrix; suppurative phylophlebitis associated with anerobic micro-organisms; bacterial precipitins.

Norris, Prof. H(arry) W(aldo), Grinnell, Ia. *Zoology.* Pittsfield, N. H, Sept. 11, 62. A.B, Iowa (Grinnell), 86; fellow, Cornell, 88–90; Nebraska, 90–91; Freiburg, 01–02. *Prof.* biol, *Iowa (Grinnell),* 91–03, *zool, 03–* Hon. A.M, Iowa (Grinnell), 89. M.A.A; fel. Iowa Acad. Development of the amphibian ear.—Cranial nerves of Amphibia.

Norris, Prof. H(enry) H(utchinson), Cornell University, Ithaca, N. Y. *Electrical engineering.* Philadelphia, Pa, April 26, 73. Hopkins, 90, 92–94; Cornell, 94–96. Electrician, Rhodes Mfg. Co, 90–91; Arnold Elec. Mfg. Co, 91–92; asst. instr. *elec. eng,* Hopkins, 92–94; instr, *Cornell,* 96–01, asst. prof, 01–05, *prof, 05–* Supt, Elec. Railway Tests, La. Purchase Expos, and mem. Jury Awards, 04; consulting engineer. Elec. Eng; Eng. Educ; Nat. Elec. Light Ass. The pedagogical treatment of engineering branches; electric railway operation.

Norris, Prof. James F(lack), Simmons College, Boston, Mass. **Chemistry.* Baltimore, Md, Jan. 20, 71. A.B, Hopkins, 92, fellow, 94, Ph.D, 95. Asst. org. chem, Mass. Inst. Tech, 95–96, instr, 96–00, asst. prof, 00–04; *prof. chem, Simmons (Mass.), 04–* M.A.A; Chem. Soc. (pres, New Eng. Sect, 04, 05); Chem. Gesell. Organic chemistry.—Atomic weight of tellurium; limits of stability of bivalent carbon.

Norsworthy, Dr. Naomi, 557 W. 124th St, New York, N. Y. *Psychology.* New York, Sept. 29, 77. B.S, Columbia, 01, Ph.D, 04. Teacher, pub. sch, Morristown, N. J, 96–99; asst. *psychol, Teachers Col, Columbia,* 01–02, tutor, 02–04, *instr, 04–* M.A.A. Effect of special training in school on general ability of child.—The mental defects of children.

Northrup, Dr. W(illiam) P(erry), 57 E. 79th St, New York, N. Y. *Medicine.* Peterborough, N. Y, Jan. 11, 51. A.B, Hamilton, 72, A.M, 75; M.D, Columbia, 78. Instr. Greek, Knox, 72–76; *prof. pediat, Univ. and Bellevue Hosp. Med. Col, 94–* Am. Physicians; Pediat. Soc. (past pres.); fel. N. Y. Acad. Med. (past pres, Pediat. Sect.). Diphtheria; scurvy; infant feeding; pneumonia.—Infectious diseases; the feeding of infants.

Norton, Prof. J(ohn) B(itting) S(mith), College Park, Md. *Botany, Horticulture.* Cocke Co, Tenn, April 7, 72. B.S, Kas. State Agr. Col, 96, M.S, 00. Asst. bot, Kas. Agr. Exp. Sta, 94–96; bot. asst, Mo. Bot. Garden, 96–01; *prof. bot. and plant path, Md. Agr. Col, and state pathologist, Md, 01–* F.A.A; Ass. Hort. Inspectors; Md. Hort. Soc; Peninsula Hort. Soc; Kas. Acad; St. Louis Acad; Wash. Bot. Soc; Engelmann Bot. Club. Flora of Kansas, Missouri, Louisiana and southwestern United States; Ustilagineae; North American Euphor-

biaceae; economic plants, especially weeds; plant diseases; effect of wind on plants; underground ecology; plant odors and taste.—Euphorbiaceae of North America; Ustilagineae; effect of wind on plants; underground ecology; Maryland economic plants and plant diseases.

Norton, Prof. S(idney) A(ugustus), 363 E. Town St, Columbus, O. **Chemistry.* Bloomfield, O, Jan. 11, 35. A.B, Union, 56, A.M, 59; M.D, Miami Med. Col, 69. Instr. nat. science, High Sch, Cleveland, 58–66; prof. chem, Miami Med. Col, 67–72; acting prof. physics, Union, 73; *prof. chem, Ohio State, 73–* Hon. M.D, Western Reserve, 69; Ph.D, Kenyon, 78; LL.D, Wooster, 81; Union, 99. Soc. Chem. Indust; Chem. Gesell. General chemistry.—Free efflorescent $PtCl_5H_2O$.

Norton, U. S. Consul T(homas) H(erbert), Smyrna, Turkey. **Chemistry.* Rushford, N. Y, June 30, 51. A.B, Hamilton, 73; Ph.D, Heidelberg, 75. Manager chem. works, Paris, 78–83; prof. chem, Cincinnati, 83–00; *U. S. Consul,* Harput, *Turkey,* 00–05; *Smyrna, 05–* Hon. Sc.D, Hamilton, 95. F.A.A. (sec'y, C, 91, sec'y, Council, 92, gen. sec'y, 93, v. pres, 94, librarian, 97); Chem. Soc. (mem. Council, 92–98); Soc. Chem. Indust; fel. London Chem. Soc; Chem. Gesell; Soc. chim. de Paris. Rarer metals, important discoveries as to their special properties and preparation; organic chemistry.

Norton, Prof. W(illiam) H(armon), Mount Vernon, Ia. *Geology.* Willoughby, O, April 3, 56. A.B, Cornell (Ia.), 75, A.M, 78. Instr. Latin and Greek, *Cornell (Ia.),* 75–77, adj. prof, 77–81, *prof.* Greek and geol, 81–90, *geol, 90–* Special asst, Ia. Geol. Surv, 93–; asst, U. S. Geol. Surv, 03– Geol. Soc; Nat. Geog. Soc; Nat. Educ. Ass. (pres, Dept. Science, 02); Iowa Acad. (pres, 00). Artesian wells; glacial geology.—Artesian wells of Iowa.

Norwood, Prof. C(harles) J(oseph), Aylesford Place, Lexington, Ky. *Geology, Mining.* New Harmony, Ind, Sept. 17, 53. Missouri, 68–72. Lab. asst. chem. and physics, Missouri, 71–72; asst. geologist, Mo. Geol. Surv, 72–74; Ky. Geol. Surv, 74–80; prof. nat. science, Bethel (Ky.), 77–81; chief inspector mines, Ky, 84–97; curator, Ky. State Geol. Dept, 93–97; mining engineer, 97–02; *dean, Dept. Mining Eng, and prof. mining, Ky. State, 02–; chief inspector mines and curator, State Geol. Dept, Ky, 02–; director, Ky. Geol. Surv, 04–* Editor and geol. and mining work, 80–83. M.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Eng. Ass. of the South. Clays.

Novy, Dr. F(rederick) G(eorge), 721 Forest Ave, Ann Arbor, Mich. **Hygiene, Bacteriology, Physiological chemistry.* Chicago, Ills, Dec. 9, 64. B.S, Michigan, 86, M.S, 87, Sc.D, 90, M.D, 91; Hygienic Inst, Berlin, 88; Path. Inst, Prague, 94; Pasteur Inst, Paris, 97. Asst. org. chem, *Michigan,* 86–87, instr. hygiene and physiol. chem, 87–91, asst. prof, 91–93, junior prof, 93–02, *prof. bacter, 02–* Past mem. Mich. Board Health; U. S. Commission to Investigate Bubonic Plague in Cal, 01. Int. Med. Cong, Moscow, 97 (hon. pres, Sect. Hygiene). F.A.A; Soc. Bact. (pres, 04); Physiol. Soc; Am. Physicians; Soc. Exp. Biol. and Med; assoc. mem. Am. Med. Ass; Mich. Acad. (v. pres.); Mich. Med. Soc; hon. mem. various med. societies and academies. Chemistry of bacteria; the cultivation of anerobes; new anerobic bacillus; immunizing action of non-bacterial products; etiology of diphtheria, yellow fever and plague; formaldehyde and sulphur disinfection.—Organic peroxids; cultivation of trypanosomes; trypanosomes of birds; hematozoa of birds; mosquito flagellates.

Noyes, Dr. Arthur A(mos), Massachusetts Institute of Technology, Boston, Mass. **Chemistry.* Newburyport, Mass, Sept. 13, 66. B.S, Mass. Inst. Tech, 86, M.S, 87; Ph.D, Leipzig, 90. Asst. anal. chem, *Mass. Inst. Tech,* 87–88, instr. anal. or org. chem, 90–94, asst. and assoc. prof. org. chem, 94–99, *prof. theoret. chem. and director, Research Lab. of Physical Chem, 99–* Ed, 'Review Am. Chem. Research,' 95–01. Nat. Acad; F.A.A. (sec'y, C, 00); Chem. Soc. (pres, 04); Am. Acad; Chem. Gesell; Bunsen Gesell. Physico-chemical researches on various applications of the ionic theory.—The electrical conductivities of aqueous solutions at high temperatures; properties of salt solutions in relation to ionic theory; systematic procedure for the qualitative analysis of the rare metals.

Noyes, Dr. Mary Chilton, Lake Erie College, Plainesville, O. *Physics, Astronomy, Mathematics.* Campello, Mass, Jan. 13, 55. Ph.B, Iowa, 81; Ph.D, Cornell, 96. Instr. math, physics and astron, Lake Erie, 86–00. Instr. math. and physics, Minneapolis Acad. M.A.A. The influence of heat upon elasticity.

Noyes, Dr. William, Mattapan, Mass. *Mental diseases.* Boston, Mass, Nov. 6, 57. A.B, Harvard, 81; fellow, Hopkins, 84–85; M.D, Harvard, 85. Asst. physician, Bloomingdale Asylum, 85–88; McLean Hosp, 89–92; Mass. Hosp. for Dipsomaniacs and Inebriates, 92–96; supt, Men's Dept, *Boston Insane Hosp,* 96–05, *supt, 05–; clin. instr. mental diseases, Harvard Med. Sch, 04–* Psychol. Ass; Medico-Psychol. Ass; Neur. Ass; Mass. Med. Soc; Boston Soc. Psychiat. and Neur. Mental diseases; psychology.

Noyes, Prof. William A(lbert), Bureau of Standards, Washington, D. C. **Chemistry.* Independence, Ia, Nov. 6, 57. A.B, B.S, Iowa (Grinnell), 79, A.M, 82; Ph.D, Hopkins, 82; Munich, 89. Asst. chem, Iowa (Grinnell), 79–80; instr, Minnesota, 82–83; prof, Tennessee, 83–86; Rose, 86–03; *chemist, Bur. Standards, 03–* F.A.A. (sec'y, C, 90, v. pres, 96); Chem. Soc. (ed, 'Jour,' 02, sec'y, 03–); Soc. Chem. Indust; Ind. Acad. (pres, 94); Chem. Gesell. Oxidation of benzene derivatives with potassium ferricyanid; atomic weight of oxygen; determination of phosphorus, sulphur and manganese in iron; hydrolysis of maltose and dextrin.—Camphoric acid.

Nugent, Prof. Paul C(ook), 417 University Place, Syracuse, N. Y. *Civil engineering.* New Orleans, La, Jan. 4, 71. A.B, Roanoke, 89; C.E, Rensselaer, 92; A.M, Roanoke, 94. Instr. *civil eng,* Lafayette, 96–97; *Syracuse,* 97–00, assoc. prof, 00–02, *prof, 02–*

Nuttall, Mrs. Zelia, Casa Alvarado, Coyoacan, D. F, Mex. *Archeology.* San Francisco, Cal, Sept. 6, 58. Private schools, Paris, Dresden and Bedford Col, London, 64–76. *Hon. special asst, Peabody Mus, Cambridge, Mass, 87–; field director of Crocker archeol. researches in Mex, California, 04–* Mem. Advisory Council, Dept. Anthrop, California; scientific mission to Russia, Pennsylvania, 94; Int. Jury Awards, Columbian Expos, 93; La. Purchase Expos, 04. Medal, Hist. Expos, Madrid, 92; Columbian Expos, 93; Pan-Am. Expos, 01. F.A.A; hon. mem. Archeol. Ass; Folk-lore Soc; fel. Ethnol. Soc; Philos. Soc; Cal. Acad; Soc. Cient. Ant. Alz; Soc. Ital. d'Antrop; Soc. de Géog. de Genève. Ancient history, calendar systems, religions and languages of the inhabitants of Mexico and Central America.—Ancient manuscripts and picture writings; explorations of ruins; living native races of Mexico.

Nutting, Prof. C(harles) C(leveland), 922 E. Washington St, Iowa City, Ia. **Zoology.* Jacksonville, Ills, May 25, 58. A.B, Blackburn, 80, A.M, 82. Curator, Mus. Nat. Hist, *Iowa,* 86–90, *prof. zool, 90–* Engaged in zool. explorations in Central America for U. S. Nat. Mus, 82–84; occupied Harvard Table, Naples Zool. Sta, 95; naturalist, Hawaiian cruise of 'Albatross,' 02. F.A.A. (sec'y, F, 97, v. pres, 02); Nat. Cent. States; Wash. Acad; fel. Iowa Acad. (pres, 91–92). Hydroida and Alcyonaria; Alcyonaria of the Hawaiian cruise of the 'Albatross.'

Nutting, Dr. P(erley) G(ilman), Bureau of Standards, Washington, D. C. **Optics, Spectroscopy.* Randolph, Wis, Aug. 22, 73. A.B, Stanford, 97; M.S, California, 99, Whiting fellow (Göttingen), 01–02; Pres. White fellow, Cornell, 02–03, Ph.D, 03. Asst. physics, Stanford, 97–98; California, 98–01; *asst. physicist, Bur. Standards, 03–* M.A.A; Physical Soc; Wash. Philos. Soc; assoc. British Ass. Ultraviolet reflection; rotary dispersion; gas conduction; radiation of black body and gases; spectroscopy; spectra of mixed gases; multiple spectra; variations of spark spectra.—Analysis of spectral lines; absolute measurement of wave-lengths; spectra of alloys.

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Obear, G(eorge) B(arrows), Brown University, Providence, R. I. *Physics.* Lynn, Mass, July 27, 79. B.S, Mass. Inst. Tech, 03; M.S, Brown, 05. Instr. math. and elec. eng, Lowell Textile Sch, 03–04; *asst. instr. math, Brown, 05–* Physical Soc; assoc. mem. Elec. Eng. Standard cells; nucleation and ionization.

Oberholser, Harry C(hurch), 1349 Harvard St, N. W, Washington, D. C. *Ornithology.* Brooklyn, N. Y, June 25, 70. Private schools. *Asst. ornithologist, Biol. Surv, U. S. Dept. Agr, 95–* F.A.A; fel. Ornith. Union; Nat. Geog. Soc; Wash. Biol. Soc; cor. mem. N. Y. Linnean Soc; Cooper Ornith. Club; Wilson Ornith. Club; Foreign Bird Club; British Ornith. Union; Australasian Ornith. Union; S. African Ornith. Union; Bombay Soc. Nat. Hist. General systematic ornithology; geographical distribution.—Troglodytes; Otocoris; Bleda and its allies; birds of South America, Africa and Asia; great horned owls; the birds of Texas.

Ockerson, Dr. J(ohn) A(ugustus), 4217 Washington Ave, St. Louis, Mo. *Engineering.* Sweden, March 4, 48. A.B, Illinois, 73, C.E, 76. Asst. engineer, A. T. and S. F. Ry, 72; asst, Surv. of Great Lakes, 73–79; U. S. asst. engineer, jetties at mouth of Miss. River, 76; physical investigations, Miss. River, 80–98; *U. S. commissioner, Improvements of Miss. River, 98–* Mem. Int. Jury of Awards, Paris Expos, 00; chief, Dept. Liberal Arts, La. Purchase Expos, 04. Officier de l'Instruction Pub, 00; Knight of Crown of Italy, 04; Knight of Order of Vasa, Sweden, 04; Chevalier Légion d'honneur, 04; Knight of the Crown of Germany, 05; Officer of the Order of the Dragon, China, 05; Order of the North Star, Sweden, 05; hon. Eng.D, Illinois, 03. Delegate, Int. Cong. Navigation, Milan, 05. Civil Eng; Nat. Geog. Soc; St. Louis Eng. Club (pres.); Int. Maritime Ass. Value of stadia in topographic surveys; refined geodetic surveys; hydrographic surveys, including velocity and volume determinations; erosion of river banks; changes in beds of sedimentary streams; flood control; revetment of river banks; efficiency of hydraulic dredges; volume of river traffic.—Possibilities of deep water navigation on Mississippi River; hydraulic dredges for improving navigation; control of flood waters; economy in water-borne transportation.

Oertel, Dr. Horst, Yale Club, 30 W. 44th St, New York, N. Y. *Pathology.* Oberlossnitz, Germany, Jan. 25, 73. Med. Sch, Yale, 94; Leipzig, Würzburg and Berlin, 94–98. Instr. clin. path, Univ. and Bellevue Hosp. Med. Col, 99–03; *pathologist, N. Y. City Hosp. and director, Strecker Mem. Lab.* Physiol. Soc; Soc. Exp. Biol. and Med; N. Y. Path. Soc. Excretion of organic phosphorus in urine; comparative study of reflex action; multilocular echinococcus disease in the United States; leukemia of the skin; non-inflammatory necrosis of the liver; primary carcinoma of the liver and histogenesis of cancer.—Degenerative hyper-secretion; morphology of autolysis.

Oestlund, Dr. Oscar W(illiam), University of Minnesota, Minneapolis, Minn. *Entomology.* Attica, Ind, Sept. 27, 57. A.B, Augustana, 79; Minnesota, 80–82; A.M, Augustana, 87, Ph.D, 00. Asst. and entomologist, Minn. Geol. and Nat. Hist. Surv, 85–90; *instr, Dept. Biol, Minnesota, 91–* Entomologist, Minn. Hort. Soc, 87–90. M.A.A; Minn. Acad. Entomology.—Aphididae; taxonomy of insects.

Ogburn, John H(utcheson), 462 Chestnut St, South Bethlehem, Pa. *Astronomy.* Springfield, Tenn, Dec. 22, 68. C.E, Vanderbilt, 92, fellow, 92–93. Asst. astronomer, Dudley Observatory, Albany, N. Y, 93–95; *instr. math. and astron, Lehigh, 95–* Positions and orbits of minor planets.—Definitive orbit of minor planet, 387; determination of aberration constants and the variation of latitude by zenith telescope method.

Ogden, Prof. H(enry) N(eely), 614 University Ave, Ithaca, N. Y. *Civil engineering.* Dexter, Me, April 30, 68. C.E, Cornell, 89. Instr. *civil eng, Cornell,* 89–92, 94–96, *asst. prof, 96–* Engineer. Assoc. mem. Civil Eng. Sewer flushing; septic tanks.

Ogden, Herbert G(ouverneur), 1324 19th St, Washington, D. C. *Surveying.* New York, N. Y, April 4, 46. Private schools and tutor. Aid, *U. S. Coast and Geod. Surv,* 63–69, *asst, 69–, inspector hydrog. and topog, 98–* Mem. U. S. Board Geog. Names. F.A.A; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc. Surveying.

Ogden, Dr. J(ay) Bergen, 419 Boylston St, Boston, Mass. *Physiological chemistry.* West Sparta, N. Y, Aug. 5, 68. M.D, Harvard, 93. Instr. chem, Harvard Med. Sch, 93–01; director, Chem. Lab, N. Y. City, 01–04; *instr. med. chem, Med. Sch, Tufts, and med. chemist, Carney Hosp, 04–* Asst. clin. path, Boston City Hosp, 93–01; visiting med. chemist, Long Island Hosp, 96–01; assoc. ed, 'Med. Critic,' 02–03; asst. surgeon, Boston Dispensary. Chem. Soc; fel. Mass. Med. Soc; N. Y. State Med. Ass. Oxaluria; haematoporphyrin in the urine; functional albuminuria.—Toxicological action of heroin; urinary preservatives.

Ogden, Prof. R(obert) M(orris), University of Tennessee, Knoxville, Tenn. *Psychology, Philosophy.* Binghamton, N. Y, July 6, 77. B.S, Cornell, 01; Ph.D, Würzburg, 03. Asst. psychol, Missouri, 03–05; *asst. prof. philos. and psychol, Tennessee, 05–* Psychol. Ass; West. Philos. Ass. Memory and the rapidity of learning; retinal circulation.—Esthetics.

Ogilvie, Dr. I(da) H(elen), Hotel Ansonia, New York, N. Y. *Geology.* New York, Feb. 12, 74. A.B, Bryn Mawr, 00; Chicago, 01; Ph.D, Columbia, 03. *Lecturer geol, Barnard, Columbia, 03–* M.A.A; fel. N. Y. Acad. Glacial geology; petrology; paleontology; glacial problems in the Adirondacks; geology and physiography of the Paradox Lake quadrangle, New York; phylogeny of the Strombidae; geology of the Ortiz Mountains, N. Mex.

O'Harra, Prof. Cleophas C(isney), State School of Mines, Rapid City, S. Dak. *Geology.* Bentley, Ills, Nov. 4, 66. A.B, Carthage, 91; Ph.D, Hopkins, 98. *Prof.* nat. and physical sciences, Carthage, 92–95; *miner. and geol, S. Dak. Sch. of Mines, 98–* Asst. geologist, S. Dak. Geol. Surv, 01–03, state geologist, West. Dist, 03– M.A.A; Geol. Soc; Min. Eng. Geology of Alleghany County, Md; geology and mineralogy of the Black Hills.—Geology, mineralogy and economic mineral products of the Black Hills.

Ohlmacher, Dr. Albert P(hilip), Ohio Hospital for Epileptics, Gallipolis, O. **Pathology, Bacteriology.* Sandusky, O, Aug. 19, 65. M.D, Northwestern, 90. Prof. comp. anat, Col. Physicians and Surg, Chicago, 92; path, Chicago Polyclinic, 93; Med. Dept, Ohio Wesleyan, 94–97; Northwestern, 01–02; *director, Path. Lab, Ohio Hosp. for Epileptics, 02–* Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Ohio Med. Soc; Chicago Med. Soc; Chicago Path. Soc. Pathology and bacteriology in general; pathology of epilepsy.—Pathology of epilepsy.

Olcott, Eben E(rskine), 38 W. 39th St, New York, N. Y. *Mining and metallurgical engineering.* New York, March 11, 54. Col. City of N. Y; E.M, Columbia, 74. Chemist, Ore Knob Copper Co, 74–75; asst. supt, Pa. Lead Co, 75–76; asst. supt. and supt, Orinoco Exploring and Mining Co, 76–79; in practise in western Colo, Utah, Nev. and Mex, 79–84; *consulting mining engineer, 84–* Min. Eng. (pres, 00–02); Civil Eng. Mines; ore deposits.

Olds, Prof. George D(aniel), 3 Orchard St, Amherst, Mass. *Mathematics.* Middleport, N. Y, Oct. 14, 53. A.B, Rochester, 73, A.M, 76. Teacher, Albany Acad, 73–79; *prof. math,* Rochester, 84–91; *Amherst, 91–* Math. Soc.

Olive, Dr. E(dgar) W(illiam), University of Wisconsin, Madison, Wis. *Botany.* Lebanon, Ind, April 1, 70. B.S, Wabash, 93, M.S, 95; A.M, Harvard, 97, Ph.D, 02. Instr. bot, Wabash, 93–95; sciences, High Sch, Frankfort, Ind, 95–96; bot, Harvard and Radcliffe, 97–03; *research asst, Carnegie Inst,* Bonn, 03–04; *Wisconsin, and res. lecturer bot, 04–* F.A.A; Ind. Acad. Acrasieae; nuclear and cell conditions in Diplophrys stercorea; mitotic division of the nuclei of the Cyanophyceae; morphology of Monascus purpureus; Entomophthoreae; Empusa.—Cytological studies of some lower plants.

Oliver, Dr. Charles A(ugustus), 1507 Locust St, Philadelphia, Pa. *Ophthalmology.* Cincinnati, O, Dec. 14, 53. A.M, Central High Sch, Phila, 73; M.D, Pennsylvania, 76. *Attending surgeon, Wills Hosp, 90–; ophthal. surgeon, Phila. Hosp, 94–; Presb. Hosp, 00–; assoc. clin. prof. ophthal, Woman's Med. Col, 00–* Co-editor, 'The Ophthalmoscope'; 'Ophthalmology'; 'Anales de Oftalmologia.' Hon. A.M, Lafayette, 00. Ophthal. Soc; Am. Med. Ass; Philos. Soc; hon. and cor. mem. many foreign medical and scientific societies. Color perception; diseases of the cerebral cortex; ametropia and heteretropia; lymph currents of the eye; pathogenesis of glaucoma; color signals; methods of illumination; bacteric diseases of the eye.

Olney, Prof. L(ouis) A(twell), 118 Riverside St, Lowell, Mass. *Chemistry.* Providence, R. I, April 21, 74. A.C, Lehigh, 96. Instr. chem, Brown, 96–97; *prof. chem. and dyeing, Lowell Textile Sch, 97–* Chemist, Board Health, Machine Shop, and Gas Light Co, Lowell; contributor, 'Century Dict'; ed. contributor, 'Tex-

tile World Record'. Chem. Soc; Soc. Chem. Indust; Cotton Mfg. Ass. Petroleum; distillation of coal and coal tar; textile coloring; textile fibers; physics of color.

Olsen, Prof. J(ohn) C(harles), 54 Clarkson St, Brooklyn, N. Y. *Chemistry.* Galesburg, Ills, July 22, 69. A.B, Knox, 90, A.M, 93; Hopkins, 94; Chicago, 97; fellow, Hopkins, 99–00, Ph.D, 00. Teacher physics and chem, High Sch, Jerseyville, Ills, 90–91; High Sch, Ipava, Ills, 91–94; High Sch, Chicago, 95–98; *prof. anal. chem, Brooklyn Polytech, 00–* Lecturer anal. chem, Brooklyn Inst. Arts and Sciences, 00–; Pratt Inst, 00– Chem. Gesell. Compounds of manganese; analytical methods.—Vapor tension of crystals; preparation of pure standard salts.

Olshausen, Prof. Geo(rge) R(obert), 3330 Dearborn St, Chicago, Ills. *Mathematical physics.* St. Louis, Mo, Nov. 1, 68. D.E, Washington (St. Louis), 90; Ph.D, Berlin, 01. Asst. engineer, Union Depot R. R. Co, St. Louis, 90–91, chief engineer, 91–95; mech. engineer, Wm. Wharton, Jr, and Co, Phila, 95–96; *asst. prof. mech. eng, Armour Inst, 01–* Instr. astron, Washington (St. Louis), 94–95. St. Louis Acad. Unipolar rotation.—Theory of radiant heat.

Olsson-Seffer, Dr. Pehr (Hjalmar), Stanford University, Cal. *Phytogeography, Botany.* Ekenas, Finland, Sept. 14, 73. Grad, Helsingfors, 92; Ph.D, Stanford, 04. *Instr.* Swedish, Mariehamn Col, 96; bot, Helsingfors Col, 99; *syst. bot, Stanford, 03–* Nat. Geog. Soc; Finland Geog. Soc. (sec'y, 97–99); fel. Soc. Fauna et Flora Fennica; Swedish Soc. Anthrop. and Geog; Stockholm Geol. Soc. Phytogeography; history of botany; economic botany.—Sand floras of marine coasts; chaparral formation of California; physiology of Castilla elastica.

O'Neill, Prof. Edmond, University of California, Berkeley, Cal. *Chemistry.* Nashville, Tenn, Dec. 13, 58. Ph.B, California, 79; Strasburg, 80–87. Instr. *chem, California,* 79–86, asst. prof, 88–90, *assoc. prof, 90–* Chem. Soc; San Francisco Acad; Chem. Gesell. Constituents of California plants; California petroleum.—Composition of California petroleum.

Ophüls, Dr. W(illiam), Lane Hospital, San Francisco, Cal. **Pathology, Bacteriology.* Brooklyn, N. Y, Oct. 23, 71. Würzburg, 90–93; Berlin, 94; M.D, Göttingen, 95. Asst, Path. Inst, Göttingen, 96–97; *prof. path. and bacter,* Missouri, 97–98; *Cooper Med. Col, San Francisco, 98–* Ass. Path. and Bact; San Francisco Micros. Soc; several med. societies. Tuberculosis; amyloid substances; mold infections; acid proof bacilli.—Tuberculosis and pseudotuberculosis; appendicitis; inflammatory edema; chronic inflammation.

Opie, Dr. Eugene L(indsay), Rockefeller Institute for Medical Research, New York, N. Y. **Pathology.* Staunton, Va, July 5, 73. A.B, Hopkins, 93, M.D, 97, fellow, 98–99. Asst. bacter, Hopkins, 99–00, instr, 00–01, assoc, 01–04; *pathologist, Rockefeller Inst. for Med. Research, 04–* House officer, Hopkins Hosp, 97–98; pathologist, Bay View Asylum, 98–04; ed, 'Jour. Exp. Med.' Ass. Path. and Bact; Am. Physicians; Soc. Exp. Biol. and Med; Am. Med. Ass; Md. Med. and Chirurg. Faculty. Histology and pathology of the pancreas and its relation to diabetes mellitus; protozoan microorganisms related to the malarial parasites; relation of eosinophite leucocytes to infection with animal parasites and with bacteria; zonal necrosis of the liver.—Pathology of the pancreas and of diabetes mellitus; inflammatory exudates.

Oppenheim, Dr. Nathan, 50 E. 79th St, New York, N. Y. *Medicine, Psychology.* Albany, N. Y, Oct. 17, 65. A.B, Harvard, 88; M.D, Columbia, 91. *Attending physician, Children's Dept, Sydenham Hosp; Neur. Dept, N. Y. City Children's Hosp. and Sch.* Am. Med. Ass; N. Y. State and Co. Med. Associations; N. Y. Acad. Med; Metrop. Med. Soc. Physical and mental development of children.—Defective children.

Ordway, Prof. John M(orse), 3125 Chestnut St, New Orleans, La. *Chemistry, Metallurgy, Biology.* Amesbury, Mass, April 23, 23. A.B, A.M, Dartmouth, 47. Chemist, Roxbury Color and Chem. Co, 47–50, 55–58; Drybrook Chem. Works, 58–60; chemist, manager and supt, Manchester Print Works, 60–65; chemist, Bayside Alkali Works, South Boston, 65–74; prof. indust. chem. and metal, Mass. Inst. Tech, 69–84; biol. and director manual training, Tulane, 84–98, prof. indust. chem, 99–00, biol, Newcomb Col, 86–04; *private research, 04–* Supt. schools, Grundy Co, Mo, 54. Min. Eng; Am. Acad; La. Eng. Soc. Chemistry; biology; engineering; physics.

Ormond, Prof. Alexander T(homas), 276 Nassau St, Princeton, N. J. *Philosophy, Mental science.* Punxsutawney, Pa, April 26, 47. Miami, 69–70; A.B, Princeton, 77, A.M, 78, Ph.D, 80. Prof. hist. and philos, Minnesota, 80–83; mental science and logic, *Princeton,* 83–98, *McCosh prof. philos, 98–* LL.D, Miami, 00. Philos. Ass; Psychol. Ass. Psychology; logic; epistemology; history of philosophy; metaphysics. —Metaphysical conception of the world.

Orndorff, Prof. W(illiam) R(idgely), 108 Cascadilla Place, Ithaca, N. Y. **Chemistry.* Baltimore, Md, Sept. 9, 62. A.B, Hopkins, 84, fellow, Ph.D, 87; Berlin and Heidelberg, 97–98. Asst. chem, Hopkins, 84–86; instr, *Cornell,* 87–90, asst. prof, 90–03, *prof. org. and physiol. chem, 03–* Mem. Jury of Awards, Paris Expos, 89; La. Purchase Expos, 04; special agent, Eleventh Census, 90. Chem. Soc; Chem. Gesell. Reaction of diazo-compounds with alcohol; polymeric modifications of acetic and propionic aldehydes; molecular weight of hydrogen peroxid and of sulphur; paranthracene or dianthracene; constitution of gallein and coerulein; bilirubin. —Formula and constitution of bilirubin; enzyme reactions.

Orr, William, 30 Firglade Ave, Springfield, Mass. *Geology.* Philadelphia, Pa, Nov. 16, 60. A.B,

Amherst, 83, A.M, 90. Principal, Hopkins Acad, Hadley, Mass, 83–85; Smith Acad, Hatfield, Mass, 85–88; teacher science, *High Sch, Springfield*, 88–00, *principal, 00–* Curator, Mus. Nat. Hist, Springfield, 94– M.A.A. Geology of western Massachusetts; extinct volcanoes of Mt. Tom and Mt. Holyoke; physiography of Holyoke Range; terraces of Connecticut River and of Westfield River.—Glacial formation of western Massachusetts.

Ortmann, Dr. A(rnold) E(dward), Carnegie Museum, Pittsburg, Pa. *Zoology, Paleontology.* Magdeburg, Germany, April 8, 63. Jena and Kiel, 82–86; Ph.D, Jena, 86. Asst. bot, Jena, 85–86; paleont, Strasburg, 86–87; first asst, Zool. Mus, Strasburg, 87–94; curator invert. paleont, Princeton, 94–03, asst. physical geog, 01–03; *curator invert. zool, Carnegie Mus, 03–* Mem. Scientific Exped. to E. Africa, 90–91; Princeton Exped. to N. Greenland, 99; assoc. ed, 'Am. Naturalist' and 'Geog. Jahrbuch,' 00– F.A.A; Soc. Nat; Geog. Ass; Nat. Geog. Soc; Philos. Soc; Wash. Acad; Zool. Gesell. Invertebrates; corals; cephalopods; bryozoans; crustaceans; geographical and geological distribution; general zoogeography.—Decapod crustaceans; distribution of invertebrates with reference to geological history of the earth.

Orton, Prof. Edward, Jr, The Normandie, Columbus, O. *Ceramics.* Chester, N. Y, Oct. 8, 63. E.M, Ohio State, 84. *Director, Dept. Clayworking and Ceramics, Ohio State, 94–; state geologist, Ohio, 99–; dean, Col. Eng, Ohio State, 02–* F.A.A; Eng. Educ; Ceramic Soc. (sec'y). Industrial problems in the various silicate industries.—The function of carbon, sulphur and iron in the vitrification of clays.

Orton, W(illiam) A(llen), Takoma Park, Washington, D. C. *Vegetable pathology.* North Fairfax, Vt, Feb. 28, 77. B.S, Vermont, 97, M.S, 98. Asst. botanist, Vt. Agr. Exp. Sta, and instr. bot, Vermont, 97–99; *pathologist, U. S. Dept. Agr, 99–* F.A.A; Soc. Plant Morph. and Physiol; Wash. Bot. Soc; Wash. Biol. Soc. Parasitic fungi of Vermont; fungicides; diseases of plants.—Wilt diseases of plants; diseases of southern field crops.

Osborn, Prof. Frederick A(rthur), University Station, Seattle, Wash. *Physics.* Tecumseh, Mich, March 3, 71. Ph.B, Michigan, 96, grad. student, 00–02. Asst. *physics*, High Sch, Saginaw, Mich, 90–91; instr, High Sch, Ann Arbor, 93–96; prof, Olivet, 96–02; *prof. and director, Physical and Elec. Laboratories, Washington (Seattle), 02–* M.A.A; Nat. Educ. Ass.

Osborn, Prof. H(enry) F(airfield), American Museum of Natural History, New York, N.Y. **Vertebrate paleontology, Comparative anatomy, Biology.* Fairfield, Conn, Aug. 8, 57. A.B, Princeton, 77; Royal Col. Sciences (under Huxley), 79; Cambridge (under Balfour), 79; Sc.D, Princeton, 80. Prof. comp. anat, Princeton, 82–90; *DeCosta prof. zool, Columbia, 90–; curator vert. paleont, Am. Mus. Nat. Hist, 90–; geologist and paleontologist, U. S. Geol. Surv, 00–* Hon. paleontologist, Can. Geol. Surv, 00. LL.D, Trinity (Conn.), 01; Princeton, 02; Sc.D, Cambridge, 04. Nat. Acad; F.A.A. (v. pres, 93); Soc. Nat. (pres, 91); Soc. Zool. (pres, 97); Paleont. Soc. (pres, 04); Philos. Soc; Geol. Soc; Ass. Anat; fel. N. Y. Acad; Wash. Acad. and several for. societies. Vertebrate paleontology; comparative anatomy; evolution and biology.—Memoirs for the U. S. Geological Survey, Canadian Survey, etc.

Osborn, Prof. H(enry) L(eslie), 1599 Hewitt Ave, St. Paul, Minn. *Zoology.* Newark, N. J, July 5, 57. A.B, Wesleyan, 78; fellow, Hopkins, 81–82, Ph.D, 84. Asst. biol, Wesleyan, 78–81; *prof.* zool, Purdue, 84–87; *biol. and geol, Hamline, 87–* Asst, U. S. Fish Commission, 80–81; prof. biol, Chautauqua, N. Y, 95–03. Soc. Nat; Minn. Acad. (pres.). Embryology and anatomy of gasteropods; structure of trematodes.—Morphology of trematodes.

Osborn, Prof. Herbert, Ohio State University, Columbus, O. **Zoology, Entomology.* Lafayette, Wis, March 19, 56. B.S, Iowa State, 79, M.S, 80; Mus. Comp. Zool, Harvard, 81–82; Naples Zool. Sta, 94–95. Asst. *zool. and entom*, Iowa State, 80–85, *prof*, 85–98; *Ohio State, 98–* Special agent, Div. Entom, U. S. Dept. Agr, 85–94; entomologist, Ia. Exp. Sta, 90–98; in charge entom. exhibit, U. S. Exp. Sta, Columbian Expos, 93; state entomologist, Iowa, 98; director, Lake Lab. at Sandusky, Ohio State, 00– F.A.A; Soc. Nat; Ass. Econ. Entom. (pres, 98); Entom. Soc; Soc. Prom. Agr. Sci; Wash. Entom. Soc; Wash. Biol. Soc; Iowa Acad. (pres, 87, sec'y, treas. and ed, 90–98); Ohio Acad. (treas, 98–04, pres, 04–05). Economic entomology; life histories of insects; grass insects; Hemiptera; Mallophaga.—Systematic and faunal studies of Hemiptera.

Osborne, Prof. Geo(rge) A(bbott), 249 Berkeley St, Boston, Mass. *Mathematics.* Danvers, Mass, Dec. 21, 39. B.S, Harvard, 60. Instr. *math*, Lawrence Sci. Sch, Harvard, 60; asst. prof, U. S. Naval Acad, 61–65; *prof, Mass. Inst. Tech, 66–* F.A.A; Math. Soc.

Osborne, Prof. Oliver T(homas), 252 York St, New Haven, Conn. *Medicine.* New Haven, Nov. 14, 62. M.D, Yale, 84; Leipzig, 85. *Prof. mat. med. and therapeut, Yale Med. Sch, 94–* Chief of Med. Clinic, New Haven Dispensary; chairman, Med. Board, Gaylord Sanatorium. Hon. A.M, Yale, 00. Am. Med. Ass; Therapeut. Soc. (past pres.); Conn. Med. Soc; Conn. Acad; New Haven Co. Med. Ass. (past pres.). Acromegaly; organic extracts; blood disease.

Osborne, Dr. Thomas B(urr), 52 Trumbull St, New Haven, Conn. **Chemistry.* New Haven, Aug. 5, 59. A.B, Yale, 81, Ph.D, 85. *Chemist, Conn. Agr. Exp. Sta, 86–* Gold medal, Paris Expos, 00. Chem. Soc; Physiol. Soc; Soc. Chem. Indust; Chem. Gesell. Vegetable proteids.

Osburn, Prof. Raymond C(arroll), Columbia University, New York, N. Y. *Zoology.* Newark, O, Jan. 4, 72. B.S, Ohio State, 98, M.S, 00; fellow,

Columbia, 02–03. Instr. biol. and embryol, Starling Med. Col, 98–99; prof. *biol*, Fargo, 99–02; *teacher, N. Y. High Sch. of Commerce, 03–* Instr. zool, Seaside Sta, Minnesota, 02. M.A.A; Ohio Acad. Distribution and habits of fresh-water fishes and of dragon-flies; distribution with lists of British Columbia Odonata and Syrphidae; aquatic adaptations in mammals and reptiles.—Comparative development of paired and unpaired limbs of the lowest sharks.

Osburn, Prof. William, Morris, Ills. *Zoology.* Wilmington, Ills, Oct. 3, 54. A.B, Kansas, 77, A.M, 91. Prof. nat. science, Walden, 91–01; instr. biol, Cincinnati, 01–02; Dept. Biol, Hughes High Sch, Cincinnati, 02–04; *proprietor, Goose Lake Seed and Stock Farm, Morris, Ills, 04–* Curator entom, Cincinnati Soc. Nat. Hist. Assoc. Ornith. Union. Ornithology; Lepidoptera.—Parasitism in Lepidoptera.

Osgood, Wilfred H(udson), U. S. Department of Agriculture, Washington, D. C. *Zoology.* Rochester, N. H, Dec. 8, 75. A.B, Stanford, 99. *Asst. biologist, U. S. Biol. Surv, 97–* F.A.A; mem. Ornith. Union; Nat. Geog. Soc; Wash. Acad; Wash. Biol. Soc. (sec'y, 00–); Cooper (Cal.) Ornith. Club (first pres.). Mammalogy; ornithology; biological surveys of Alaska.—Biological surveys of Alaska; certain American genera of mammals.

Osgood, Prof. W(illiam) F(ogg), Harvard University, Cambridge, Mass. **Mathematics.* Boston, Mass, March 10, 64. A.B, Harvard, 86, A.M, 87; Göttingen, 87–89; Ph.D, Erlangen, 90. Instr. *math, Harvard,* 90–93, asst. prof, 93–03, *prof, 03–* Ed, 'Annals of Math,' 99–02. Nat. Acad; Math. Soc. (mem. Council, 00–03, v. pres, 03, pres, 05); Math. Verein; Circolo Mat. di Palermo. Theory of functions of real and of complex variables.

Osler, Dr. William, Oxford, England. **Medicine.* Bond Head, Ont, July 12, 49. Trinity (Can.), 68; Toronto Sch. Med, 69–70; M.D, McGill, 72; Univ. Col, London, 72–73; Berlin and Vienna, 73–74. Prof. institutes of med, McGill, 74–84; clin. med, Pennsylvania, 84–89; *med,* Hopkins, 89–05; *Regius prof, Oxford Univ, England, 05–* Hon. prof. med, Hopkins, 05– LL.D, Edinburgh, Aberdeen, Yale, Toronto, Harvard, McGill and Hopkins; hon. Sc.D, Oxford, M.D, 05. F.A.A; Am. Physicians; Ass. Path. and Bact; Physiol. Soc; Neur. Soc; Pediat. Soc; Am. Acad; Philos. Soc; fel. Royal Soc. Internal medicine.

Osmond, Prof. I(saac) Thornton, State College, Pa. *Physics.* Near Philadelphia, Pa, May 24, 44. A.B, Mount Union, 71, A.M, 74; M.S, Cornell, 87. Adj. prof. sciences, Polytech. Col. of Pa, 73–75; principal, Clinton Liberal Inst, 75–77; *prof. physics, Pa. State, 79–* Mem. Jury of Awards, Franklin Inst. Elec. Exhib; meteorologist, Pa. State Board of Agr, several years; asst. animal nutrition experiments, U. S. Bur. Animal Indust. F.A.A. Direct utilization of (solar) radiant energy without conversion into heat.

Osterhout, Prof. W(inthrop) J(ohn) V(anleuven), Berkeley, Cal. **Botany.* Brooklyn, N. Y, Aug. 2, 71. A.B, Brown, 93, A.M, 94; Bonn, 95–96; Ph.D, California, 99. Instr. *bot,* Brown, 93–95; *California,* 96–99, *asst. prof, 99–* Instr. bot, Woods Hole, 94–95. Cal. Acad; San Francisco Micros. Soc; San Francisco Biol. Club. Spindle formation and fertilization in plants.—Cytology; polarity in plants; effect of salt on plants.

Ostrander, Prof. J(ohn) E(dwin), Amherst, Mass. *Civil engineering, Mathematics.* Slingerlands, N. Y, March 20, 65. A.B, C.E, Union, 86, A.M, 89. Practising civil engineer, 86–91; instr. civil eng, Lehigh, 91–92; *prof.* civil eng. and mech. arts, Idaho, 92–97; *math. and civil eng, Mass. Agr. Col, and meteorologist, Hatch Exp. Sta, 97–* Acting prof. astron, Amherst, 00–01. Civil Eng; Min. Eng; Eng. Educ. Civil engineering; variation of the magnetic needle; meteorology.

Ott, Dr. Isaac, Easton, Pa. **Physiology.* Northampton Co, Pa, Nov. 30, 47. M.D, Pennsylvania, 69; A.M, Lafayette, 77; fellow, Hopkins, 78. *Prof. physiol, Medico-Chirurg. Col, Phila, 95–* Consulting neurologist, Norristown Asylum, Pa. Soc. Nat; Physiol. Soc; Neur. Soc. (past pres.); Phila. Neur. Soc. Physiology and pathology of the nervous system.—Thermogenic centers; intestinal peristalsis; physiological action of drugs.

Overton, Dr. Ja(me)s B(ertram), 512 Wisconsin Ave, Madison, Wis. *Biology, Botany.* Richmond, Mich, Dec. 23, 69. Ph.B, Michigan, 94; fellow, Chicago, 00–01, Ph.D, 01; Bonn, 03–04. Senior master math, St. John's Mil. Acad, Delafield, Wis, 95–98; asst. bot, Chicago, summer, 00–01; prof. biol, Illinois Col, 01–04; *instr. bot, Wisconsin, 04–* Soc. Nat; Bot. Cent. States. Parthenogenesis in Thalictrum purpurascens.—Reduction division of chromosomes in Thalictrum; reduction division in flowering plants.

Owen, Cha(rle)s L(orin), Field Columbian Museum, Chicago, Ills. *Archeology.* Granville, O, Sept. 3, 61. A.B, Denison, 85; Peabody Mus, Harvard, 93. *Asst. curator, Div. Archeol, Field Mus. Nat. Hist, 01–* Civil engineer, 85–98. F.A.A; Anthrop. Ass; Wis. Nat. Hist. Soc; Wis. Archeol. Soc.

Owen, Prof. D(avid) A(llen), 200 S. State St, Franklin, Ind. *Biology.* Worthington, Ind, Dec. 11, 52. A.B, Franklin, 78, A.M, 81. Instr. nat. science, *Franklin,* 79–85, *prof. biol, 85–* M.A.A; Bot. Cent. States; Ind. Acad.

Owens, Prof. Robert Bowie, McGill University, Montreal, Can. *Electrical engineering.* Grad, Charlotte Hall Mil. Acad, Md; Hopkins; E.E, A.M, Columbia, John Tyndall fellow; B.S, M.S, Sc.D, McGill. *Prof.* elec. and steam eng, Nebraska, 91–98; *elec. eng, McGill, 98–* Construction and consulting work in electric lighting, electric railway and power transmission

for many years; director, Dept. Elec, Trans-Miss. Exhib; mem. Jury of Awards, Columbian Expos, 93; La. Purchase Expos, 04. Int. Elec. Cong, Chicago, 93; St. Louis, 04 (mem. Committee on Organization). Elec. Eng. (past v. pres, hon. sec'y for Can.); Mech. Eng; Eng. Educ; N. Y. Elec. Soc; Can. Soc. Civil Eng. (pres, Elec. Sect.); fel. Can. Royal Soc; British Inst. Elec. Eng. (hon. sec'y and treas. for Can.), Electrical engineering.

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Paarmann, J(uergen) H(erman), 2021 Ripley St, Davenport, Ia. *Zoology.* Davenport, Sept. 2, 70. B.S, Iowa, 01, M.S, 02. Teacher, pub. schools, 94–97; principal, Wolcott, Ia, 99–00; tutor math, Iowa, 00–01; *curator, Davenport Acad. Sciences, 02–; special teacher science, pub. schools, Davenport, 03–* Fel. Iowa Acad; Iowa Anthrop. Ass. (v. pres, 03–); Davenport Acad. Classification of the hydroids.—Entomology.

Pace, Prof. Edward A(loysius), Catholic University, Washington, D. C. *Psychology.* Starke, Fla, July 3, 61. A.B, St. Charles, 80; D.D, Urban Col. of Propaganda, Rome, 86; Ph.D, Leipzig, 91. *Prof. philos, Catholic Univ, 91–* Psychol. Ass; Philos. Ass. Fluctuations of attention.—Adaptation; retinal fatigue.

Packard, Prof. W(ales) H(arrison), 215 S. Underhill St, Peoria, Ills. *Biology.* Chatham, O, Nov. 12, 70. B.S, Olivet, 94; Chicago, 94–98. Instr. *zool,* Woods Hole, 95–99; *Bradley Polytech. Inst,* 99–04, *prof, 04–* Instr. physiol, Chicago, summer, 02. Resistance to lack of oxygen.—Effect of drugs on resistance to lack of oxygen.

Paddock, Prof. W(endell), Fort Collins, Colo. *Horticulture, Botany.* Three Oaks, Mich, July 12, 66. B.S, Mich. Agr. Col, 93, M.S, 98. Asst. hort, State Exp. Sta, Geneva, N. Y, 93–00; *prof. bot. and hort, Colo. State Agr. Col, 98–* F.A.A; Soc. Hort. Sci.

Page, Dr. Calvin G(ates), 128 Marlboro St, Boston, Mass. *Bacteriology, Orthopedic surgery.* Boston, July 9, 67. A.B, Harvard, 90, M.D, 94. *Physician, Orthop. Dept, Boston Dispensary, 96–; asst. bacter, Harvard Med. Sch, 99–* House officer, Children's Hosp, 93–94; Boston City Hosp, 95. Ass. Path. and Bact; Am. Med. Ass; Nat. Ass. Study and Prevention of Tuberculosis; Mass. Med. Soc; Boston Soc. Med. Sci. Bacteriology of scarlet fever.—Bacteria in scarlet fever.

Page, Prof. J(ames) M(orris), Cobham, Va. **Mathematics.* Cobham, March 4, 64. A.M, Randolph-Macon, 85; Ph.D, Leipzig, 87. Head master, private sch, 88–95; adj. prof. *math, Virginia,* 96–98, assoc. prof, 98–01, *prof, 01–,* dean, Acad. Faculty, 00–02. Assoc. ed, 'Annals of Math,' 96–99. Math. Soc. Applications of the infinitesimal calculus to geometry.

Paine, Prof. John. A(lsop), 75 Neperan Road, Tarrytown, N. Y. *Oriental history, Literature, Archeology.* Newark, N. J, Jan. 14, 40. A.B, Hamilton, 59, A.M, 62; Andover Theol. Sem, 59–62; Leipzig and Halle, 69, 70. State botanist, N. Y, 62–67; prof. nat. science, Robert Col, Constantinople, 67–69; sciences and German, Lake Forest, 70–71; archeologist, First Exped. to Palestine beyond the Jordan and Dead Sea, 72–75; *curator, Metrop. Mus. of Art, New York, 89–* Hon. Ph.D, Hamilton, 74. Plants found in Oneida County, N. Y, and vicinity; botany; geology and mineralogy of the Hudson River Valley; the unsuccessful attempts made in the sixteenth century to colonize the eastern coast of North America.

Palache, Prof. Charles, 6 Buckingham Place, Cambridge, Mass. *Mineralogy, Geology.* San Francisco, Cal, July 18, 69. B.S, California, 91, fellow, 92–94, Ph.D, 94. Instr. *miner, Harvard,* 96–01, *asst. prof, 02–* F.A.A; Geol. Soc; Am. Acad. Mineralogy; crystallography.—Crystallography of American minerals.

Palmer, Prof. A(lbert) deForest, Jr, Brown University, Providence, R. I. *Physics.* Tewksbury, Mass, July 26, 69. Ph.B, Brown, 91; Hopkins, 91–93; Ph.D, Brown, 95. Instr. *physics, Brown,* 93–96, *assoc. prof, 96–* F.A.A; Physical Soc. Wave-length of helium line; effect of high pressure on electrical resistance of mercury; dielectric constants of solutions; changes in the dielectric constant of water with frequency of the electric field and with temperature.—Thermoelectric measurements of temperatures between 0° and 200° C.

Palmer, Dr. Cha(rle)s S(keele), Care Engineering and Mining Journal, New York, N. Y. *Chemistry.* Danville, Ills, Aug. 4, 58. A.B, Amherst, 79, A.M, 82; fellow, Hopkins, 85–86, Ph.D, 86; Leipzig, 92. Prof. chem, Colorado, 87–02; pres, Colo. Sch. of Mines, 02–03; chief chemist, A. C. M. Co, Anaconda, Mont, 03–04; *assoc. ed, 'Eng. and Mining Jour,' 04–* F.A.A; Chem. Soc; Nat. Educ. Ass. (pres, Dept. Nat. Sci. Teachers, 96); Colo. State Teachers' Ass. (pres, 01); Colo. Sci. Soc. (pres, 94); Colo. Sci. Teachers' Ass. (pres, 95). The nature of the chemical elements; the periodic sequence; eruptive rocks of Boulder County; education in scientific subjects.—The nature of chemical elements; analysis of a meteorite; atomic weight of silver; condition of gold in auriferous sulphids; chemistry of copper.

Palmer, Prof. Chase, State College, Lexington, Ky. **Chemistry.* Saco, Me, Sept. 19, 56. Princeton, 74–76; A.B, Hopkins, 79, fellow, 80–82, Ph.D, 82. Instr. chem, Mass. Inst. Tech, 82–83; State Nor. Sch, Salem, Mass, 83–87; Tufts, 87–88; prof, Wabash, 88–90; manager of lead and zinc mines, Aurora and Alba, Mo, 91–93; chemist, Manual Training High Sch, Louisville, Ky, 95–01; *prof. chem,* Central Univ. of Ky, 01–05; *Ky. State, 05–* Chem. Soc; Franklin Inst; Chem. Gesell. Thorium compounds; allyl cyanid.—Photochemistry; aromatic substitution products.

Palmer, Prof. George Herbert, 11 Quincy St, Cambridge, Mass. *Philosophy.* Boston, Mass, March 19, 42. A.B, Harvard, 64, A.M, 67; Andover Theol. Sem, 65–67; Tübingen, 67–69; Andover Theol. Sem, 69–70. Tutor Greek, *Harvard,* 70–73, asst. prof. philos, 73–83, prof. 83–89, *Alford prof. nat. religion, Christian ethics and civil polit, 89–* Curator, Gray Collections of Engravings, Harvard, 72–76. LL.D, Michigan, 94; Union, 95; Litt.D, Western Reserve, 97.

Palmer, Dr. H(arold) K(ing), Casilla 1219 Santiago, Chile. *Astronomy.* Berkeley, Cal, Jan. 20, 78. B.S, California, 98, fellow, Lick Observatory, 98–02, Ph.D, 03. *Asst, D. O. Mills Exped. to Southern Hemisphere, 03–* Instr. practical astron, California, 03. Pacific Astron. Soc. Spectra of faint nebulae; celestial photography.

Palmer, Dr. T(heodore) S(herman), U. S. Department of Agriculture, Washington, D. C. *Mammalogy, Ornithology, Game protection.* Oakland, Cal, Jan. 26, 68. A.B, California, 88; M.D, Georgetown, 95. Field agent, *U. S. Dept. Agr,* 89–90, first asst. ornithologist, 90–96, asst. chief, *Biol. Surv,* 96–02, *asst. in charge of game preservation, 02–* Soc. Nat; fel. Ornith. Union; Fisheries Soc; Wash. Acad; Wash. Biol. Soc. Nomenclature of mammals; game protection. —Index of genera of mammals; game protection.

Palmer, W(illia)m, 1237 31st St, Washington, D. C. *Ornithology, Botany.* Penge, England, Aug. 1, 56. Pub. schools. *Taxidermist and zool. modeler, U. S. Nat. Mus, 74–* Fel. Ornith. Union; Wash. Biol. Soc; Linnean Fern Chapter. Feather structure; avifauna and flora of Virginia.—Comparative feather growth and molts; fern variations; Virginia flora and fauna.

Palmié, Prof. Anna H(elene), Western Reserve University, Cleveland, O. *Mathematics.* Brooklyn, N. Y, May 21, 63. Ph.B, Cornell, 90, fellow, 90–91; Chicago, 96; Göttingen, 98–99. Instr. German and math, Horace Mann Sch, 91–92; *math, Col. for Women, Western Reserve,* 92–93, assoc. prof, 93–95, *prof, 95–* Math. Soc.

Pammel, Prof. L(ouis) H(ermann), Ames, Ia. **Botany, Bacteriology.* LaCrosse, Wis, April 19, 62. B.Agr, Wisconsin, 85, M.S, 89; Ph.D, Washington (St. Louis), 99. Private asst. to Dr. W. G. Farlow, Cambridge, Mass, 85, 86; asst, Shaw Sch. of Bot, Washington (St. Louis), 86–89; *prof. bot, Iowa State, 89–* Special work, Tex. Agr. Exp. Sta, Div. Veg. Path, U. S. Dept. Agr, 89, Div. Agrost, 97, Bur. Forestry, 99–02, Bur. Plant Indust, 02. F.A.A; Bot. Soc; Soc. Bact; Soc. Prom. Agr. Sci; Iowa Acad. (pres, 93); Bot. Gesell; Acad. Int. Géog. Bot. Anatomical characters of the seeds of Leguminosae; grasses of Iowa; gases produced by certain bacteria.—Flora of central Iowa and of the Uintahs; weeds of Iowa; etc.

Parish, S(amuel) B(onsall), San Bernardino, Cal. *Botany, Phytogeography.* Paterson, N. J, Jan. 13, 38. A.B, N. Y. Univ, 58. Hon. mem. Cal. Acad; S. Cal. Acad. The flora of southern California.—Life areas of the southern California flora.

Park, Dr. Roswell, 510 Delaware Ave, Buffalo, N. Y. *Surgery.* Pomfret, Conn, May 4, 52. A.B, Racine, 72, A.M, 75; M.D, Chicago Med. Col, 76. *Prof. surg, Buffalo, and surgeon, Buffalo Gen. Hosp, 83–* Hon. A.M, Harvard, 95; LL.D, Yale, 02. F.A.A; Surg. Ass. (past pres.); N. Y. State Med. Soc. (past pres.); Gesell. für Chirurg; Soc. Ital. di Chirurg; Soc. Int. de Chirurg. Surgery; pathology.—Etiology of cancer.

Park, Dr. W(illia)m H(allock), 315 W. 76th St, New York, N. Y. **Bacteriology, Hygiene.* New York, Dec. 30, 63. A.B, Col. City of N. Y, 83; M.D, Columbia, 86; Vienna, 89–90. Asst. director, Research Lab, Health Dept, New York City, 95, director, 05; adj. prof. *bacter. and hygiene, Univ. and Bellevue Hosp. Med. Col,* 98–01, *prof, 01–* F.A.A; Ass. Path. and Bact; Soc. Bact; Am. Physicians; Soc. Exp. Biol. and Med; Pub. Health Ass; N. Y. Path. Soc. Diphtheria; exanthemata; milk.—Etiology of exanthemata; etiology of pneumonia.

Parker, Edward W(heeler), 1825 Kalorama Ave, Washington, D. C. *Mining statistics, Mineralogy.* Port Deposit, Md, June 16, 60. Baltimore High Sch. *Statistician, U. S. Geol. Surv, 91–* Mem. Jury of Awards, Columbian Expos, 93; expert special agent, U. S. Census, 00–; La. Purchase Expos, 03, 04; ed, 'Eng. and Min. Jour,' 01–02; mem. Anthracite Coal Strike Commission, 02–03. Silver medal, Paris Expos, 00; Pan-Am. Expos, 01; commemorative medal, La. Purchase Expos, 04. F.A.A; Min. Eng; Statist. Ass; Nat. Geog. Soc; Wash. Geol. and Econ. Societies.

Parker, Prof. G(eorge) H(oward), 6 Avon Place, Cambridge, Mass. **Zoology.* Philadelphia, Pa, Dec. 23, 64. Acad. Nat. Sciences, Philadelphia, 79–82; B.S, Harvard, 87, Sc.D, 91, Parker fellow (Leipzig, Berlin, Freiburg and Naples), 91–93. Asst. *zool, Harvard,* 86–88, instr, 88–91, 93–99, *asst. prof, 99–* F.A.A; Soc. Nat; Soc. Zool; Physiol. Soc; Ass. Anat; Soc. Exp. Biol. and Med; fel. Am. Acad; Wash. Acad; cor. mem. N. Y. Acad; Phila. Acad; Boston Soc. Nat. Hist. Anatomy and physiology of sense organs and of central nervous organs.—Reactions of organisms.

Parker, Prof. Herschel C(lifford), 21 Fort Greene Place, Brooklyn, N. Y. **Physics.* Brooklyn, July 9, 67. Ph.B, Columbia, 90, fellow, 90–91. Asst. *physics, Columbia,* 91–93, tutor, 93–01, instr, 01–03, *adj. prof, 03–* F.A.A; Physical Soc; Elec. Eng; Am. Alpine Club; Am. Geog. Soc; Explorer's Club; fel. N. Y. Acad. Methods of electrical measurement; properties of certain high electrical resistances.—Electrical investigations with very brief intervals of contact.

Parker, Dr. William H(untington), Waban, Mass. *Physiological chemistry.* Worcester, Mass, July 31, 69. B.S, Worcester, 93; Mass. Inst. Tech, 93–94; Ph.D, Yale, 99. Instr. chem,

Med. Sch, Yale, 94–00; asst. physiol, Harvard Med. Sch, 00–01; *chemist in charge, U. S. Lab, Boston, 01–* Chemist and bacteriologist, Conn. State Board of Health, 94–00. Physiol. Soc; Soc. Bact; Soc. Chem. Indust; Boston Soc. Med. Sci. Lactose formation after complete removal of the mammary glands; maximum production of glycocoll in proteid decomposition; occurrence of xanthin basic in the feces; osmotic properties of colloidal solutions.—Peripheral neurones on the course of vasodilator nerves; action of bile acids on solubility of soaps; arsenic in commercial hypophosphites.

Parkhurst, Henry M, 173 Gates Ave, Brooklyn, N. Y. *Astronomy.* Gilmanton, N. H, March 1, 25. Self-educated. Phonographic reporter, 46–00; stenographer, U. S. Senate, 48–56; Superior Court, N. Y. City, 71–91. F.A.A; Astron. and Astrophys. Soc. Stellar photometry.

Parkhurst, John A(delbert), Yerkes Observatory, Williams Bay, Wis. *Astronomy.* Dixon, Ills, Sept. 24, 61. Wheaton, 78–81; B.S, Rose, 86, M.S, 97. Instr. math, Rose, 86–88; asst, *Yerkes Observatory,* 98, 00–04, *instr. practical astron, 05–* Astron. and Astrophys. Soc; fel. Royal Astron. Soc; Astron. Gesell. Variable stars; stellar photometry; spectra of stars of Type IV.—Photometric and photographic determination of standards for faint stellar magnitude, minima of faint variable stars, and photometric magnitudes of comparison stars for same; classification and spectra of Type IV.

Parks, C(harles) W(ellman), U. S. Navy Yard, Portsmouth, N. H. *Physics, Engineering.* Woburn, Mass, March 22, 63. C.E, Rensselaer, 84; LL.B, Columbian, 99. Instr. physics, Rensselaer, 86–93; *civil engineer, U. S. N, 97–* Supt. liberal arts, Paris Expos, 89; special agent, Interior Dept, Columbian Expos, 93. Officier de l'Instruction Pub. F.A.A; Elec. Eng; Rensselaer Soc. Eng. Heat and electricity as applied to industrial development.

Parks, Prof. W(illiam) A(rthur), 69 Albany Ave, Toronto, Can. *Geology, Paleontology.* Hamilton, Ont, Dec. 11, 68. A.B, Toronto, 92, fellow, 93, Ph.D, 00. Instr. *geol, Toronto,* 96–02, lecturer, 02–05, *assoc. prof, 05–* Geologist, Bur. of Mines, Ont, summers, 95–00; Can. Geol. Surv, 00– Can. Inst; Can. Min. Ass. Economic geology; invertebrate paleontology.—American stromatoporoids.

Parmenter, Dr. Geo(rge) F(reeman), Waterville, Me. *Chemistry.* Dover, Mass, March 26, 77. B.S, Mass. Agr. Col. and Boston, 00; A.M, Ph.D, Brown, 03. Instr. chem, Mass. Agr. Col; chemist, R. I. Exp. Sta, 01; instr. *chem,* Brown, 01–03; assoc. prof, *Colby,* 03–04, *prof, 04–* Asst. chemist, Hatch Exp. Sta, Mass. Chem. Soc. The action of acetic anhydrid on acids of the phenylpropiolic series; the composition of casein.—Acids of the phenylpropiolic series.

Parr, Prof. S(amuel) W(ilson), 919 W. Green St, Urbana, Ills. *Chemistry.* Granville, Ills, Jan. 21, 57. B.S, Illinois, 84; M.S, Cornell, 85; Berlin and Zürich, 00–01. Instr. and prof. science, Illinois Col, 85–91; *prof. chem, Illinois, 91–* Chem. Soc; Electrochem. Soc; Soc. Chem. Indust. Illinois coals; calorimetry of fuels; metallurgical chemistry; boiler waters.—Coal; cements; analytical methods for tin and antimony.

Parrish, Miss C(elestia) S(usannah), 715 Prince Ave, Athens, Ga. *Philosophy.* Pittsylvania Co, Va, Sept. 12, 53. Roanoke, 75–78; State Nor. Sch, Va, 84–86; Michigan, 91–92; Ph.B, Cornell, 96. *Teacher,* pub. schools, Danville, Va, 75–84; State Nor. Sch, Va, 84–93; Randolph-Macon, 93–02; *State Nor. Sch, Ga, 02–* Teacher, Va. Summer Sch. of Methods, 87–02; of the South, 02, 03; Virginia and Mississippi, 03. Soc. Sci. Educ; Nat. Educ. Ass; Ass. Col. Alumnae; S. Soc. Philos. and Psychol; S. Educ. Ass; S. Educ. Conference. Psychology; the cutaneous estimation of open and filled space; localization on the skin by means of pressure.

Parrott, P(ercy) J(ohn), Geneva, N. Y. *Entomology.* Croydon, England, May 28, 74. A.B, Kansas, 97, A.M, 98. Asst. entomologist, Kas. State Agr. Col, 98–99; N. Y. Exp. Sta, 00–02; *entomologist,* Ohio Exp. Sta, 02–04; *N. Y. Exp. Sta, 04–* Entomologist, Kas. Hort. Soc. Economic entomology; systematic work on Coccidae and Eriophyidae.

Parsons, Prof. Charles L(athrop), New Hampshire College, Durham, N. H. **Chemistry.* New Marlboro, Mass, March 23, 67. B.S, Cornell, 88. Asst, N. H. Exp. Sta, 88; instr. *chem, N. H. Col. Agr. and Mech. Arts,* 90–92, *prof, 92–* Nichols medal, Chem. Soc, 04. F.A.A. (sec'y, C, 04); Chem. Soc; Chem. Gesell. Chemistry.—Atomic weight; compounds of beryllium.

Parsons, Dr. Louis A(lexander), University of California, Berkeley, Cal. *Physics.* Burlington, Ia, April 9, 72. A.B, Iowa, 95, A.M, 99; fellow, Hopkins, 00–02, Ph.D, 02. Instr, High Sch, Burlington, Ia, 95–98; asst. *physics,* Hopkins, 02–03; *instr,* Utah, 03–04; *California, 04–* Physical Soc; Electrochem. Soc. The spectrum of hydrogen.

Parsons, W(illia)m Barclay, 35 East 50th St, New York, N. Y. **Engineering.* New York, April 15, 59. A.B, Columbia, 79, C.E, 82. Chief engineer, Rapid Transit Commission of New York, 94–05; advisory engineer, Royal Commission London Traffic, 04; mem. Isthmian Canal Commission, 04–05; *practising engineer.* Engineer of extensive surveys and explorations in China. Civil Eng; Min. Eng; British Inst. Civil Eng; Soc. des Ing. de France. Modulus of elasticity of concrete and strength of concrete reinforced with steel members.

Partridge, Dr. Edw(ard) A(nson), 1738 Sydenham St, Philadelphia, Pa. *Mathematics, Physics.* Philadelphia, Feb. 18, 69. B.S, Pennsylvania, 89, Ph.D, 98. *Prof. physics, Central Manual Training Sch, Phila, 91–* Math. Soc; Franklin Inst; Camden Astron. Soc. Atomic weight of cadmium.

Partridge, Dr. G(eorge) E(verett), 54 Hollywood St, Worcester, Mass. *Psychology.* Worcester, May 31, 70. Harvard, 89–90; Ph.D, Clark, 99. Instr. *psychol,* State Nor. Sch, Mankato, Minn, 00–04; *lecturer, Clark, 04–* Genetic and individual psychology.—Individual mental differences; history of psychology.

Paton, Dr. Stewart, 213 West Monument St, Baltimore, Md. *Psychiatry.* New York, N. Y, 65. A.B, Princeton, 86, A.M, 89; M.D, Columbia, 89. *Assoc. psychiat, Hopkins.* Director, Lab, Sheppard and Enoch Pratt Hosp. F.A.A; Soc. Nat; Ass. Anat; Neur. Ass; N. Y. Acad. Med. Development of cerebral cortex; clinical psychiatry.—Correlation of structural and functional changes associated with development of central nervous system in trout and amblystoma embryos.

Patrick, Prof. G(eorge) T(homas) W(hite), Iowa City, Ia. **Philosophy, Psychology.* North Boscawen, N. H, Aug. 19, 57. A.B, Iowa, 78; B.D, Yale, 85; fellow, Ph.D, Hopkins, 88; Leipzig, 94. *Prof. philos, Iowa, 87–* Philos. Ass; Psychol. Ass; West. Philos. Ass. (pres, 03). Heraclitus; psychology of prejudice, woman, child and play.—Psychology of adult play.

Pattee, Prof. E(rnest) N(oble), 402 Euclid Ave, Syracuse, N. Y. *Chemistry.* Ottawa, Can, July 21, 64. B.S, Rochester, 86, M.S, 90. Teacher, Greece, N. Y, 86–87; teacher science, Heyward Col. Inst, Fairfield, Ills, 89–90; instr. *chem, Syracuse,* 90–94, adj. prof, 94–95, assoc. prof, 95–97, *prof, 97–* Chem. Soc. Occurrence of Sr and Ba in the rocks of Onondaga, N. Y; separation of Ca, Sr and Ba.

Patten, Dr. Harrison E(astman), University of Wisconsin, Madison, Wis. *Chemistry.* Crete, Ills, May 29, 73. A.B, Northwestern, 94, fellow, 95, A.M, 96; fellow, Wisconsin, 01–02, Ph.D, 02. Asst. *chem,* Northwestern, 93–94; *instr, Wisconsin, 02–* Teacher, high schools, Joliet, Elgin and Sycamore, Ills. Chem. Soc; Electrochem. Soc. Chromic hydroxid in precipitation; magnesium; manganous hydroxids; barium sulphate; electrochemistry.

Patten, Prof. Simon N(elson), University of Pennsylvania, Philadelphia, Pa. *Economics.* Sandwich, Ills, May 1, 52. Northwestern, 74–76; Ph.D, Halle, 78. *Prof. polit. econ, Pennsylvania, 88–* LL.D, Illinois, 05. Econ. Ass; Acad. Polit. and Social Sci.

Patten, Prof. William, Hanover, N. H. **Biology.* Watertown, Mass, March 15, 61. B.S, Harvard, 83, Parker fellow, 83–86; Ph.D, Leipzig, 84. Asst, Lake Lab, Milwaukee, 86–89; *prof.* biol, North Dakota, 89–93; *zool, Dartmouth, 93–* Trustee, Woods Hole. Walker nat. hist. prize, 79. Soc. Nat; Soc. Zool. (v. pres.); Ass. Anat; Paleont. Soc; St. Petersburg Imp. Soc. Nat. Anatomy and embryology of arthropods; embryology of mollusks; variation in Limulus; visual organs; origin of vertebrates. —Physiology of the nervous system of Limulus; embryology of arachnids; structure of the fossil fishes and arthropods of the Devonian and Silurian formations.

Patterson, Prof. A(ndrew) H(enry), Athens, Ga. *Physics, Astronomy.* Salem, N. C, Sept. 28, 70. Ph.B, B.E, North Carolina, 91; A.B, Harvard, 92, A.M, 93. Electrician, Consolidated Traction Co, Jersey City, 93–94; instr. *physics, Georgia,* 94–97, adj. prof, 97–98, *prof, 98–* M.A.A; Physical Soc. Hertzian rays; X-rays; high tension phenomena.

Patterson, Dr. Austin M(cDowell), 57 Clarendon St, Springfield, Mass. *Chemistry.* Damascus, Syria, May 31, 76. A.B, Princeton, 97; Ph.D, Hopkins, 00. Instr. chem, Centre (Ky.), 00–01; Rose, 01–03; *with G. & C. Merriam Co, 03–* M.A.A; Chem. Soc. Permanganic acid; camphoric acid.

Patterson, Mrs. Flora W(ambaugh), The Decatur, Washington, D. C. *Vegetable pathology, Mycology.* Columbus, O, Sept. 15, 47. Antioch, 60; Cincinnati Wesleyan, 65, A.M, 83; Radcliffe, 92–95; A.M, Iowa, 95. Asst, Gray Herbarium, Harvard, 95; instr. biol, private sch, Boston, 96; asst. pathologist in charge, Herbarium, Div. Veg. Physiol. and Path, *U. S. Dept. Agr,* 96–01, *mycologist in charge, Herbarium Veg. Path, Bur. Plant Indust, 01–* Assoc. ed, 'Econ. Fungi,' 94–95. M.A.A; Nat. Geog. Soc; Wash. Biol. Soc. Fungous diseases of plants and insects; systematic mycology.

Patterson, Prof. George W(ashington), 814 S. University Ave, Ann Arbor, Mich. *Electrical engineering, Physics.* Corning, N. Y, Feb. 1, 64. A.B, Yale, 84; B.S, Mass. Inst. Tech, 87; Harvard Law Sch, 88–89; A.M, Yale, 91; Ph.D, Munich, 99. Asst. math, Mass. Inst. Tech, 87–88; instr. physics, *Michigan,* 89–92, asst. prof, 92–98, junior prof, 98–01, *elec. eng,* 01–05, *prof, 05–* F.A.A; assoc. Elec. Eng; Physical Soc; Electrochem. Soc. Standard of electrical current.

Patterson, Director H(arry) J(acob), College Park, Md. *Chemistry, Agriculture.* Yellow Springs, Pa, Dec. 17, 67. B.S, Pa. State, 86. Asst. chemist, Pa. Agr. Exp. Sta, 86–88; chemist, *Md. Agr. Exp. Sta,* 88–98, *director and chemist, 98–* F.A.A; Chem. Soc; Soc. Prom. Agr. Sci; Soc. Chem. Indust. Chemistry; feeding and fertilizing problems.—Methods of rendering phosphates available to crops; effect of preservatives upon the digestibility of foods.

Patterson, Dr. James L(awson), Chestnut Hill, Philadelphia, Pa. *Mathematics.* Savannah, O, Aug. 18, 49. Ph.B, Lafayette, 77. Instr. math. and physics, Hill Sch, 76–83; math. master, Lawrenceville Sch, 83–94; prof. math, Union, 94–97; *head master, Chestnut Hill Acad, 97–* Hon. Sc.D, Princeton. M.A.A; Math. Soc.

Patton, Prof. George S(tevenson), Princeton, N. J. *Ethics.* Nyack, N. Y, March 13, 69. A.B, Princeton, 91, A.M, 94, Theol. Sem, 92–95; Berlin, 97–98; Cambridge, England, 98–99. Asst. prof. biblical instruction, *Princeton,* 95–99, *moral philos,* 99–02, *prof, 02–* Philos. Ass. Ethics.

Patton, Prof. H(orace) B(ushnell), Golden, Colo. *Geology, Mineralogy, Petrography.* Chicago, Ills, Sept. 18, 58. A.B, Amherst, 81; Ph.D, Heidelberg, 87. Instr. science and math, Howard, 81–83; asst. miner. and petrog, Heidelberg, 87; asst. prof. geol, Rutgers, 88–90; asst. geologist, Mich. Geol. Surv, and instr, Mich. Col. Mines, 91–93; *prof. geol. and miner, Colo. Sch. Mines, 93–* F.A.A. (sec'y, E, 01); Geol. Soc. Petrography.

Paul, Prof. H(enry) M(artyn), U. S. N, U. S. Naval Academy, Annapolis, Md. *Astronomy, Engineering.* Dedham, Mass, June 25, 51. A.B, Dartmouth, 73, C.E, 75. Asst. astronomer, Naval Observatory, 75–80; prof. astron, Imp. Univ, Tokyo, 80–83; asst. astronomer, Naval Observatory, 83–97; *prof. math, U. S. N, 97–,* eng. work, Bur. Yards and Docks, 99–05, *teacher math, U. S. Naval Acad, 05–* Mem. Jury Awards, Elec. Expos, Phila, 84; Pan-Am. Expos, 01. F.A.A. (sec'y, A, 87); Astron. and Astrophys. Soc; Wash. Acad; Wash. Philos. Soc. Transit of Mercury, May, 78; eclipse of July, 78; occultation semidiameter of the moon; longitude of Princeton; observations of variable stars.

Paulmier, Dr. F(rederick) C(lark), State Museum, Albany, N. Y. **Zoology.* Madison, N. J, May 17, 73. B.S, Princeton, 94, M.S, 96; Ph.D, Columbia, 00. *Asst. zool,* Columbia, 98–00; *N. Y. State Mus, 00–* F.A.A; Soc. Nat; Soc. Zool. Spermatogenesis; New York fauna. —Myriopoda.

Pawling, Jesse, Jr, Overbrook, Pa. *Physics, Mathematics.* Overbrook, Oct. 29, 65. A.B, Central High Sch, Phila, 88, A.M, 93; B.S, Cornell, 93; Pennsylvania, 03– Instr. *physics,* Central High Sch, Phila, 96–03; *asst, Randal Morgan Lab. of Physics, Pennsylvania, 03–* Computer, 'Nautical Almanac' Office, 94–96; U. S. Coast and Geod. Surv, 95; U. S. Naval Observatory, 03– M.A.A; Metrol. Soc; Franklin Inst. The metric system.—Legislation on weights and measures.

Payne, Prof. W(illiam) W(allace), Northfield, Minn. *Mathematics, Astronomy.* Somerset, Mich, May 19, 37. A.B, Hillsdale, 63, A.M, 65; Michigan, 64–65; LL.B, Chicago, 66. *Prof. math. and astron, Carleton, 71–, director, Goodsell Observatory.* Acting dean, Col. Faculty, 96–99; ed, 'Sidereal Messenger'; 'Astron. and Astrophys'; 'Popular Astron,' 93– Hon. Ph.D, Hillsdale, 91. Astron. and Astrophys. Soc. Astronomy.

Peabody, Prof. Cecil H(obart), 10 Columbia St, Brookline, Mass. *Engineering.* Burlington, Vt, Aug. 9, 55. B.S, Mass. Inst. Tech, 77. Prof. math. and eng, Imperial Agr. Col, Japan, 78–80; asst. prof. mech. eng, Illinois, 81–83, steam eng, 84–93; *prof. naval archit. and marine eng, Mass. Inst. Tech, 93–* Mem. Jury of Awards, Pan-Am. Expos, 01. Naval Archit. and Marine Eng; fel. Am. Acad. Naval architecture and engineering.

Peabody, Prof. George L(ivingston), 57 W. 38th St, New York, N. Y. *Therapeutics, Pathology, Medicine.* New York, Aug. 27, 50. A.B, Columbia, 70, A.M, M.D, 73; Vienna and Strasburg, 75–77. Pathologist, *N. Y. Hosp,* 78–88, *attending physician, 84–;* prof. mat. med. and therapeut, Columbia, 87–03; *attending physician, Roosevelt Hosp, 97–* Attending physician, Bellevue and St. Luke's Hospitals. Am. Physicians; N. Y. Acad. Med; N. Y. Practitioners Soc; Greater N. Y. Med. Soc. Pathology; therapeutics; internal medicine.

Peabody, J(ames) E(dward), 918 E. 170th St, New York, N. Y. *Biology.* Brookline, N. H, Aug. 21, 69. A.B, Williams, 92; A.M, Harvard, 96. Principal, High Sch, Williamstown, 92–95; teacher biol, English High Sch, Boston, 96–97; *head, Dept. Biol, Morris High Sch, New York, 97–* Soc. Nat; N. Y. State Science Teachers Ass. (Committee on study of alcohol and narcotics, sec'y, 90–01). Sense organs of selachians.

Pearce, Edward D(ouglas), Box 1336, Providence, R. I. *Chemistry.* Providence, Feb. 24, 49. A.B, Harvard, 71. *Mfg. chemist, 71–* Chem. Soc; Soc. Chem. Indust.

Pearce, Dr. Richard M(ills), Bender Hygienic Laboratory, Albany, N. Y. *Pathology.* March 3, 74. M.D, Harvard, 97. Res. pathologist, Boston City Hosp, 96–99; instr. path, Harvard Med. Sch, 99–00; demonstrator and asst. prof, Pennsylvania, 00–03; *prof. path. and bacter, Albany Med. Col, and director, Bender Hygienic Lab. and Bur. Path, New York State Board of Health, 03–* Ass. Path. and Bact; Am. Physicians; Ass. Anat; Soc. Exp. Biol. and Med; Phila. Path. Soc; Phila. Col. Physicians; Path. Gesell. Pathology and bacteriology of diphtheria and scarlet fever; leptothricial infections; diseases of the pancreas; nephrolysins; cytolytic immune serum.—Experimental arteriosclerosis.

Pearl, Dr. Raymond, University of Michigan, Ann Arbor, Mich. *Zoology.* Farmington, N. H, June 3, 79. A.B, Dartmouth, 99; Ph.D, Michigan, 02. Asst. *zool, Michigan,* 99–02, *instr, 02–* Assoc. ed, 'Jour. of Applied Micros'; asst, U. S. Fish Commission, summers, 01, 02. F.A.A; Soc. Zool; Nat. Cent. States; Mich. Acad. (treas, 02); Univ. of Mich. Research Club. Animal behavior; reaction of organisms to the electric current; teratology; biometry.—Statistical study of variation in whitefish of Great Lakes; biometrical studies on several invertebrates and on man.

Pearson, Dr. Leonard, University of Pennsylvania, Philadelphia, Pa. *Veterinary science.* Evansville, Ind, Aug. 17, 68. B.S, Cornell, 88; V.M.D, Pennsylvania, 90; Berlin, 91. *Prof. med, Pennsylvania, 92–, dean, Faculty Vet. Med, 00–; state veterinarian, Pa, 96–* Mem. Board of Health, Phila, and State Board of Health, Pa, 04– Vet. Med. Ass. (sec'y, 95, pres, 97); Pub. Health Ass; Breeders' Ass; Pa. Vet. Med. Ass. (pres, 93–94); Pa. Breeders' Ass;

Phila. Path. Soc. Infectious diseases of animals; animal production; tuberculosis of cattle.—The conformation of the horse; the construction of the stable; repression of tuberculosis of cattle; milk hygiene.

Pearson, Raymond A(llen), Dairy Building, Cornell University, Ithaca, N. Y. *Agriculture, Animal industry, Dairying.* Evansville, Ind, April 9, 73. B.S, Cornell, 94, M.S, 99. Asst, Dairy Lab, Cornell, 94; asst. chief, Dairy Div, U. S. Dept. Agr, 95–02; gen. manager, Walker-Gordon Lab. Co, 02–03; *prof. dairy indust, Cornell, 03–* F.A.A. (sec'y, I, 01); Nat. Geog. Soc. Dairying; city milk supply.

Peary, Commander Robert E(dwin), Navy Department, Washington, D. C. *Arctic exploration.* Cresson, Pa, May 6, 56. A.B, Bowdoin, 77. *Civil engineer* and later *commander, U. S. N, 81–*; asst. engineer, Nicaraugua Ship Canal, 84–85; engineer in charge Nicaraugua canal surveys, 87–88; chief, Arctic Exped, Phila. Acad. Nat. Sciences, 91–92; Arctic Exped, 93–95; commander, Arctic Exped. Peary Arctic Club, 98–02. Cullum and Daly medals, Am. Geog. Soc; Patron's medal, Royal Geog. Soc; medal, Edinburgh Royal Scottish Geog. Soc; Kane gold medal, Phila. Geog. Soc. Int. Geog. Cong, 04 (pres.). Civil Eng; Philos. Soc; hon. mem. Am. Alpine Club; Alaska Geog. Soc. (hon. v. pres.); hon. mem. Phila. Geog. Soc. Arctic exploration and discovery.

Pease, Herbert D(odge), 116 Washington Ave, Albany, N. Y. *Bacteriology.* Boston, Mass, Oct. 25, 70. M.B, Toronto, 93; Hopkins, 93–94, fellow, 94–95. Res. pathologist, Thomas Wilson Sanit. for Children, Baltimore, 94; first asst. bacteriologist, Dept. of Health, Phila, 95–98; bacteriologist, N. Y. State Path. Lab, Buffalo, 98–00; instr. bacter, Sheffield Sci. Sch, Yale, 01; *director, Antitoxin Lab, N. Y. State Dept. Health, Albany, 01–* Adj. prof. bacter, Phila. Polyclinic, 97; mem. committee on standard test for diphtheria antitoxin for U. S. Pharmacopœia, 02; lecturer antitoxins and immunity, Albany Med. Col. Ass. Path. and Bact; Soc. Bact; Pub. Health Ass. (recorder, Lab. Sect, 01–); Albany Co. Med. Soc; non-res. mem. Phila. Path. Soc. Diphtheria bacilli and antitoxin; etiology of malignant tumors.—Nature of bacterial toxins and their antitoxins.

Peck, Prof. Cha(rle)s H(orton), Menands, Albany, N. Y. **Botany.* Sand Lake, N. Y, March 30, 33. A.B, Union, 59, A.M, 62. Teacher, Sand Lake Col. Inst, 59–62; Albany Classical Inst, 62–66; *botanist, N. Y. State Mus, 67–* M.A.A; Bot. Soc; Forestry Ass; Mycol. Soc; New Eng. Bot. Club; Albany Inst. and Hist. and Art Soc. Botany, especially mycology; Agaricaceae of New York.

Peck, Prof. Frederick B(urritt), College Campus, Easton, Pa. *Geology, Mineralogy.* Seneca Castle, N. Y, Aug. 19, 60. A.B, Amherst, 86; Ph.D, Munich, 96. Teacher math. and science, Tillotson Acad, Trinidad, Colo, 86–90, principal, 90–91; asst. geol, Amherst, 91–93; teacher geol, Amherst and Smith, 93–94; *prof. geol. and miner, Lafayette, 97–* M.A.A; Geol. Soc. Crystallography of bournonite; origin of talc and serpentine.—Basal conglomerate and geology of Cement Belt in Lehigh and Northampton Counties, Pa.

Peck, Prof. Henry A(llen), 307 Waverly Ave, Syracuse, N. Y. *Astronomy.* Mexico, N. Y, May 4, 63. A.B, Syracuse, 85, A.M, 88; Ph.D, Strasburg, 96. Instr. math, Dickinson Sem, Williamsport, Pa, 85–87; *Syracuse, 87–93, prof. astron, 93–* Astron. and Astrophys. Soc; Astron. Gesell. Definitive orbits of comets.—Definitive orbit of comet 1819 II.

Peckham, Dr. Geo(rge) W(illiams), Milwaukee, Wis. **Biology, Psychology.* Albany, N. Y, March 23, 45. M.D, Michigan, 73. Instr. biol, High Sch, Milwaukee, 72–86, principal, 89–91; supt. schools, *Milwaukee,* 91–97; *librarian, Pub. Library, 97–* LL.D, Wisconsin. Wis. Acad. (pres.); Wis. Nat. Hist. Soc. (pres.). Color problems; instinct; growth of children.—Classification of spiders; instinct.

Peckham, Mrs. Geo. W. (Elizabeth Gifford), 646 Marshall St, Milwaukee, Wis. *Biology.* Milwaukee, Dec. 19, 54. A.B, Vassar, 76, A.M, 89. Entomology; instincts of Hymenoptera.—Arachnology.

Peckham, Prof. S(tephen) F(arnum), 150 Halsey St, Brooklyn, N. Y. *Chemistry.* North Providence, R. I, March 26, 39. Brown, 61. Instr. chem, Brown, 68; prof, Washington and Jefferson, 69; Me. State, 70–71; Buchtel, 72; Minnesota, 73–80; special agent, U. S. Census, 80–85; *chemist, Commissioners of Accounts, N. Y, 98–* Chemist, Cal. Petroleum Co, 65–66; Cal. Geol. Surv, 66–67; Union Oil Co, 93–94. Hon. A.M, Brown, 70. Chem. Soc; Soc. Chem. Indust; Philos. Soc. Chemistry of bitumen; mineralogy; explosions; chemistry of cements.—Composition and constitution of asphaltum.

Peckham, Prof. William C(lark), 406 Classon Ave, Brooklyn, N. Y. *Physics.* South Royalston, Mass, Aug. 13, 41. A.B, Amherst, 67, A.M, 70. Principal, Leicester Acad, Mass, 67–68; teacher math. and astron, Williston Sem, Mass, 68–70; *prof.* math, Adelphi Acad, 75–83, *physics,* 83–96, *Adelphi, 96–* On staff, 'Scientific American,' 97–; lecturer, Board of Educ, N. Y. City. M.A.A; Physical Soc; Brooklyn Inst. Electricity.

Pedersen, Dr. Frederick M(alling), 452 W. 144th St, New York, N. Y. *Mathematical physics.* New York, Feb. 12, 69. B.S, Col. City of N. Y, 89; E.E, Columbia, 93; M.S, N. Y. Univ, 02, Sc.D, 05. Asst. engineer, Crocker Wheeler Co, 93–99; tutor *math, Col. City of N. Y,* 99–02, *instr, 03–* Physical Soc; Elec. Eng. The influence of molecular structure upon the internal friction of gases.

Peebles, Prof. Florence, The Woman's College, Baltimore, Md. **Biology.* Pewee Valley, Ky, June 3, 74. A.B, Woman's Col. of Baltimore, 95; Table at Woods Hole, 95; Mary E. Garrett

scholar,Bryn Mawr, 95–96, fellow, 96–97; Room at Woods Hole, 96, 97; Mary E. Garrett European fellow, 98–99; Am. Woman's Table, Naples, 98; Ph.D, Bryn Mawr, 00; Am. Woman's Table, Naples, 01. Student asst. *biol*, Bryn Mawr, 97–98; instr, *Woman's Col. of Baltimore*, 99–02, *assoc. prof*, *02–* Soc. Nat; Soc. Zool. Regeneration of hydroids; embryology.—Life history of Haematococcus.

Peet, Rev. Stephen D(enison), 438 57th St, Chicago, Ills. *Archeology, Ethnology.* Euclid, O, Dec. 2, 30. A.B, Beloit, 51; Andover Theol. Sem, 54. Pastor, Congregational church; *ed*, *'Am. Antiquarian and Oriental Journal,' 79–* Hon. Ph.D, Beloit, 97. Antiq. Soc; Oriental Soc; Soc. Bib. Archeol; N. Y. Numis. Soc; Anthrop. Inst. of Gt. Britain and Ireland; Victoria Inst. Comparative religions; aboriginal customs; prehistoric art and architecture.—Mythology in America; migration of Indian tribes; alphabets and codices.

Pegram, Dr. Geo(rge) B(raxton), Columbia University, New York, N. Y. **Physics.* Trinity, N. C, Oct. 24, 76. A.B, Trinity (N. C.), 95; Columbia, 99–00, Ph.D, 03. Teacher, high schools, N. C, 95–99; asst. *physics, Columbia*, 00–02, tutor, 02–05, *instr, 05–* Magnetic observer, U. S. Coast and Geod. Surv, 02–03. F.A.A; Physical Soc. Radio-activity of thorium.—Secondary radio-activity in the electrolysis of thorium.

Peirce, Prof. B(enjamin) O(sgood), Jefferson Physical Laboratory, Cambridge, Mass. **Mathematical physics.* Beverly, Mass, Feb. 11, 54. A.B, Harvard, 76; Ph.D, Leipzig, 79; Helmholtz's Lab, Berlin, 80. Instr. math, Boston Latin Sch, 80–81; *Harvard*, 81–84, asst. prof. math. and physics, 84–88, *Hollis prof. math. and nat. philos*, *88–* F.A.A; Physical Soc; Math. Soc; Astron. and Astrophys. Soc; Am. Acad; Wash. Acad. Gas batteries; spectra of the haloid compounds of mercury; the propagation of heat in solid bodies; the thermal conductivities of rocks; the temperature variations of the thermal conductivities of marble and slate; plane doublets and quadruplets; generalized space differentiation; families of curves which are the lines of certain plane vectors either solenoidal or lamellar; classes of solenoidal and lamellar vectors symmetrical with respect to an axis; theorems concerning the steady flow of electricity through massive conductors; isothermal conics; the sensitiveness of the eye to slight differences in color; the properties of batteries formed of cells joined up in a multiple arc; the electrical resistances of various poor conductors; the perception of horizontal and vertical lines; etc.

Peirce, C(harles) S, 'Arisbe,' Milford, Pa. **Logic.* Cambridge, Mass, Sept. 10, 39. A.B, Harvard, 59, A.M, 62, B.S, 63. Asst, U. S. Coast and Geod. Surv, 73–93. Lecturer, Harvard, 64–65, 69–71; Hopkins, 80–82; Lowell Inst, 66, 95, 03. Delegate for U. S, Int. Gradmessung Conf, Stuttgart. Nat. Acad; Am. Acad. Logic, especially logic of relations, probabilities, theory of inductive and abductive validity; epistemology; metrology; history of science; multiple algebra; doctrine of multitudes; gravity; wave-lengths; phonetics of Elizabethan English; great men; ethics; phaneroscopy; cosmology; experimental psychology; physical geometry.—Foundations of mathematics; classification of science; code of terminology; topical geometry.

Peirce, Prof. G(eorge) J(ames), P. O. Box 65, Stanford University, Cal. *Plant physiology.* Manila, P. I, March 13, 68. B.S, Harvard, 90, Parker fellow, 92–94; Ph.D, Leipzig, 94. Asst. bot, Harvard and Radcliffe, 90–92; asst. prof, Indiana, 95–97; *Stanford*, 97–00, *assoc. prof. plant physiol*, *00–* F.A.A; Soc. Plant Morph. and Physiol; Bot. Gesell. Physiology, especially of parasitic plants.—Various parasitic flowering plants.

Peirce, Prof. J(ames) M(ills), 4 Kirkland Place, Cambridge, Mass. **Mathematics.* Cambridge, May 1, 34. A.B, Harvard, 53, A.M, 56. Tutor *math, Harvard*, 54–58, asst. prof, 61–69, *prof*, *69–* Math. Soc; Am. Acad. Quaternions; triangular and tetrahedral coordinates.

Pell, Prof. Alex(ander), Vermilion, S. Dak. **Mathematics.* Moscow, Russia, Sept. 25, 57. Fellow, Ph.D, Hopkins, 97. *Prof. math, South Dakota*, *97–* Math. Soc; Kasan (Russia) Math. Soc. Differential geometry.

Pellew, Prof. Charles E(rnest), 10 W. 43d St, New York, N. Y. **Chemistry.* London, England, March 11, 63. E.M, Columbia, 84. Instr. and later demonstrator physics and chem, Col. Physicians and Surg, *Columbia*, 87–97, *adj. prof. chem*, *97–* Chem. Soc; Soc. Chem. Indust; fel. N. Y. Acad; Chem. Verein.

Pender, Dr. Harold, Syracuse University, Syracuse, N. Y. *Physics.* Tarboro, N. C, Jan. 13, 79. A.B, Hopkins, 98, Ph.D, 01. Teacher, McDonogh Sch, 01–02; *instr. physics, Syracuse*, *02–* Physical Soc. Electrical convection.—Magnetic action of charged carbonic acid stream.

Penfield, Prof. Samuel L(ewis), Sheffield Scientific School, New Haven, Conn. **Mineralogy.* Catskill, N. Y, Jan. 16, 56. Ph.B, Yale, 77; Strasburg, 81; Heidelberg, 84; A.M, Yale, 96. Asst. anal. chem, *Yale*, 78–79, instr. and asst. prof. *miner*, 80–93, *prof*, *93–* LL.D, Wisconsin, 04. Nat. Acad; F.A.A; Geol. Soc; assoc. fel. Am. Acad; Gt. Britain Miner. Soc; London Geol. Soc; Göttingen Gesell; Stockholm Geol. Soc; Christiania Sci. Soc. Mineral chemistry and crystallography.

Penhallow, Prof. D(avid) P(earce), McGill University, Montreal, Can. *Botany.* Kittery Point, Me, May 25, 54. B.S, Mass. State, 73; Boston, 88; B.S, M.S, McGill, 96, Sc.D, 04. Prof. bot. and chem, Imperial Col. Agr, Japan, 76–80; botanist, Houghton Farm Exp. Sta, 82–83; *prof. bot, McGill*, *83–* Acting pres, Imperial Col. Agr, Japan, 79–80; ed, 'Can. Rec. Science,' 88–90, 04–; assoc. ed, 'Am. Nat-

uralist,' 97–; ed. for paleobot, 'Bot. Centralblatt,' 02–; mem. British Ass. Committee on Ethnol. Surv. of Can, 97–04, chairman, 02–04; Royal Soc. of Can. Committee, Ethnol. Surv, 02; trustee, Mar. Biol. Lab. of Can, 97–; Woods Hole, 02– Soc. Nat; Soc. Plant Morph. and Physiol. (pres, 99); New Eng. Bot. Club; Mass. Hort. Soc; assoc. mem. Boston Soc. Nat. Hist; fel. Can. Royal Soc. (pres, Sect. IV, 96–97); N. S. Fruit Growers' Ass. Paleobotany; plant anatomy; Cretaceous and Tertiary floras of Canada; Paleozoic floras; North American coniferales.

Penniman, Dr. Thomas D(obbin), 922 Cathedral St, Baltimore, Md. *Physics, Electrical engineering.* Baltimore, April 19, 70. A.B, Hopkins, 92, Ph.D, 97. *Engineer, Rowland Telegraphic Co, 97–* Gold medal, Paris, 01. Electrical measurements; new methods for the measurements, determination and comparison of self inductance, mutual inductance and capacity, with some actual measurements.

Pennington, Dr. Mary E(ngle), 3914 Walnut St, Philadelphia, Pa. *Physiological chemistry.* Nashville, Tenn, Oct. 8, 72. Ph.D, Pennsylvania, 95, fellow, 95–97; fellow, Yale, 97–98; research, Pennsylvania, 98–01. *Director, Chem. Lab, Woman's Med. Col. of Pa, 98–; chief, Phila. Clin. Lab, 01–* Bacteriologist, Phila. Bur. Health, 04–; bacter. chemist, Bur. Chem, U. S. Dept. Agr, 05– F.A.A; Chem. Soc. Columbium and tantalum; tungsten; chemico-physiology of Spirogyra nitida; diphtheria; chemico-bacteriology of milk; physiological chemistry.

Pennock, John D(owner), 2002 W. Genesee St, Syracuse, N. Y. **Chemistry.* Morristown, Vt, Aug. 16, 60. A.B, Harvard, 83. Asst, Chem. Lab, Harvard, 84; asst. chemist, *Solvay Proces Co,* 85–86, *chief chemist, 86–* Mem. Belgian Jury of Awards, La. Purchase Expos, 04. U. S. delegate, Int. Cong. Applied Chem, Berlin, 03. Chem. Soc; Soc. Chem. Indust; Min. Eng; Syracuse Chem. Soc. (pres, 02–). Retort coke ovens and chemical by-products; ammonia; heat conductivity of magnesia; quantitative analysis of aqua ammonia.

Penrose, Prof. R(ichard) A(lexander) F(ullerton), Jr, 460 Bullitt Building, Philadelphia, Pa. **Geology.* Philadelphia, Dec. 17, 63. A.B, Harvard, 84, A.M, Ph.D, 86. With U. S. Geol. Surv, 85–86; asst. geologist, Tex. Geol. Surv, 88–89; Ark. Geol. Surv, 89–92; lecturer *econ. geol,* Stanford, 93; *prof, Chicago, 93–* Connected with U. S. Geol. Surv, 94–95; co-editor, 'Jour. of Geol'; mem. Committee on Hayden Memorial Award, 02. F.A.A. (sec'y, E, 01); Geol. Soc; Min. Eng; Nat. Geog. Soc; Philos. Soc; Wash. Geol. Soc; Phila. Acad; Colo. Sci. Soc. Economic and chemical geology.—Nature and origin of ore deposits.

Pepper, George H(ubbard), 119 N. Ninth St, Newark, N. J. *Anthropology.* Tottenville, N. Y, Feb. 2, 73. Harvard, 95–96. Asst. archeol. of the southwest, Am. Mus. Nat. Hist, 96–05. F.A.A. (sec'y, H, 04); Anthrop. Ass. (asst. treas, 03–05); fel. Ethnol. Soc. (treas, 01–05); Folk-lore Soc. Anthropology of the southwest, especially Chaco Cañon group in northwest New Mexico; folk-pottery of the modern Pueblos; southwestern textiles.

Perisho, Prof. Ellwood C(happelle), Vermilion, S. Dak. *Geology.* Westfield, Ind. B.S, Earlham, 87, A.M, 00; fellow, Chicago, 93–95, M.S, 95. *Prof.* math, Guilford, 88–93; *geol,* Platteville State Nor. Sch, Wis, 96–03; *South Dakota, and state geologist, S. Dak, 03–* Wis. Acad; Chicago Acad. Early erosion history of southwestern Wisconsin; lead and zinc ores of southwestern Wisconsin; general geological conditions in South Dakota.

Perkins, Dr. Cha(rle)s A(lbert), 1547 W. Clinch Ave, Knoxville, Tenn. **Physics.* Ware, Mass, Oct. 31, 58. A.B, Williams, 79; fellow, Hopkins, 83–84, Ph.D, 84. Prof. math, Lawrence, 80–81; asst. physics, Hopkins, 84–87; assoc, Bryn Mawr, 87–91; *prof,* Hampden-Sidney, 91–92; *physics and elec. eng, Tennessee, 92–* Mem. Nat. Conference of Electricians, Phila, 84. F.A.A; Physical Soc; Elec. Eng. Magnetism of nickel; vapor tension of sulphuric acid; electricity.

Perkins, Prof. G(eorge) H(enry), 205 S. Prospect St, Burlington, Vt. *Geology, Anthropology.* Cambridge, Mass, Sept. 25, 44. A.B, Yale, 67, Ph.D, 69. *Howard prof. nat. hist, Vermont, 69–, dean, Dept. Science, 95–; state geologist, Vt, 98–* F.A.A. (sec'y, H, 82, 83, 96); Geol. Soc. Archeology of New England, especially of Vermont; geology of Vermont; building stones. —Geological survey of Vermont.

Perkins, Prof. Henry A(ugustus), 27 Marshall St, Hartford, Conn. *Physics.* Hartford, Nov. 14, 73. A.B, Yale, 96; E.E, A.M, Columbia, 99; Yale, 00, 02. With Hartford Elec. Light Co, 99–00; lab. asst. *physics,* Yale, 01–02; *prof, Trinity (Conn.), 02–* Physical Soc; assoc. Elec. Eng; Nat. Geog. Soc; Am. Alpine Club. Velocity of propagation of magnetism; theory of Wheatstone's bridge sensibility.—Efficiency of sparking apparatus.

Perkins, Dr. H(enry) F(arnham), 205 S. Prospect St, Burlington, Vt. *Zoology, Entomology.* Burlington, May 10, 77. A.B, Vermont, 98; Ph.D, Hopkins, 02. *Instr. zool, Vermont, 02–* Research asst, Carnegie Inst, 02–04. M.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist. Morphology of Hydromedusae.

Perkins, Dr. Jay, 106 Waterman St, Providence, R. I. *Medicine, Anatomy.* Penobscot, Me, Oct. 15, 64. Colby, 87–88; M.D, Harvard, 91; Vienna, 98. Pathologist, R. I. Hosp, 94–00; *demonstrator human anat, Brown, 97–; physician to outpatients, Dept. Pulmonary Tuberculosis, R. I. Hosp, 00–* House physician, R. I. Hosp, 91–93; Boston Lying-in Hosp, 93–94; med. examiner, Dist. No. 10, Providence Co, R. I, 96–; bacter. work, R. I. State Board of Health; visiting physician, St. Joseph's Hosp. Ass. Path. and Bact; Am. Med. Ass; R. I. Med. Soc; Mass.

Med. Soc; Providence Med. Ass; R. I. and Mass. Medico-Legal Soc. (pres, 97, 98). Air embolism; tuberculosis.—Tuberculosis.

Perkins, Dr. R(oger) G(riswold), Western Reserve Medical School, Cleveland, O. *Bacteriology, Pathology.* Schenectady, N. Y, May 17, 74. A.B, Union, 93; A.B, Harvard, 94; M.D, Hopkins, 98; fellow, Rockefeller Inst. for Med. Research, 01–02. Res. pathologist, Lakeside Hosp, Cleveland, 98–01; demonstrator path, Med. Sch, *Western Reserve,* 99–01, lecturer bacter. and asst. path, Med. Sch, and lecturer bacter, Dental Sch, 01–04, *asst. prof. path. and bacter, Med. Sch, and prof. bacter, Dental Sch, 04–* Ass. Path. and Bact; Pub. Health Ass; Am. Med. Ass; Ohio Soc. for Prevention of Tuberculosis; Cleveland Acad. Bacteriology; pathology.—Etiology of variola and vaccinia.

Perott, Joseph de, 5 Gates St, Worcester, Mass. *Mathematics.* Thumiac, France, March 7, 54. Paris and Berlin, 77–80. *Docent math, Clark, 90–* Soc. math. de France. Irregular determinants.

Perrine, Prof. C(harles) D(illon), Lick Observatory, Mt. Hamilton, Cal. **Astronomy.* Steubenville, O, July 28, 67. Steubenville High Sch; Lick Observatory. In business up to 93; sec'y, *Lick Observatory,* 93–95, asst. astronomer, 95–05, *astronomer, 05–* Acting astronomer, Lick Observatory, 01. Lalande prize, Paris Acad, 97; hon. Sc.D, Santa Clara, 05. F.A.A; Astron. and Astrophys. Soc; Pacific Astron. Soc. (pres, 02); for. assoc. Royal Astron. Soc; Astron. Gesell. Discovery, observations and orbits of comets; solar eclipse problems; observations for solar parallax; physical and other observations of the nebulae; observations of the nebulae with Crossley reflector; physical observations of nebulosity about Nova Persei.—Definitive orbit of comet 1895 IV.

Perrine, Dr. F(rederic) A(uten) C(ombs), Pittsfield, Mass. *Electrical engineering, Physics.* Manalapan, N. J, Aug. 25, 62. A.B, Princeton, 83, A.M, Sc.D, 85. Elec. engineer, U. S. Elec. Lighting Co, 85–89; John A. Roebling Sons' Co, 89–92; prof. elec. eng, Stanford, 93–00; *pres, Stanley Elec. Mfg. Co, 00–, consulting engineer, 04–* Ed, 'Jour. of Elec,' San Francisco, 94–97; 'Elec. Eng,' Chicago, 97–99. Gold medal, Paris, 00. Elec. Eng; Mech. Eng; hon. mem. Pacific Coast Transmission Ass; British Inst. Elec. Eng. Wires and insulators.—High potential transmission.

Perry, Arthur C(ecil), 226 Halsey St, Brooklyn, N. Y. *Astronomy.* Rocky Hill, Conn, April 10, 52. Self-educated. *Cashier, U. S. Life Ins. Co.* Officer, Astron. Dept, Brooklyn Inst, 90–00. F.A.A; British Astron. Ass. Variable stars.

Perry, Joseph H(artshorn), 276 Highland St, Worcester, Mass. *Chemistry, Geology.* Dudley, Mass, March 23, 58. A.B, Amherst, 82. *Teacher chem. and geol,* High Sch, *Worcester,* 82–92, *English High Sch, 92–* Asst. geologist, U. S. Geol. Surv, 88–02. Geol. Soc; Chem. Soc; Soc. Chem. Indust. Fossil coal plant found at the graphite deposit in mica schist at Worcester, Mass.—Geology and physical geography of Worcester, Mass.

Perry, Prof. Ralph Barton, 5 Avon St, Cambridge, Mass. *Philosophy.* Poultney, Vt, July 3, 76. A.B, Princeton, 96; A.M, Harvard, 97, Ph.D, 99. Instr. *philos,* Williams, 99–00; Smith, 00–02; *Harvard,* 02–05, *asst. prof, 05–* Philos. Ass; Soc. Psychical Research. Ethics; philosophy of religion.—Philosophy of science.

Persons, Prof. A(ugustus) A(rchilus), University, Ala. *Chemistry.* Enon, Ala, Nov. 15, 66. B.S, Ala. Polytech, 86, M.S, 88; Summer Sch, Chicago, 99, 00. Prof. nat. science, Ala. Nor. Col, 89–92; prof. chem, Fla. Agr. Col, and chemist, Exp. Sta, 92–98; *prof. chem, Alabama, 98–* Consulting chemist for several railway systems; agr. ed, 'Fla. Citizen.' Chem. Soc; Ass. Off. Agr. Chemists. Some typical soils of the Florida peninsula.

Peter, Alfred M(eredith), 268 E. Maxwell St, Lexington, Ky. *Chemistry.* Lexington, May 25, 57. B.S, Ky. Agr. and Mech. Col, 80, M.S, 82. Asst. chemist, Ky. Geol. Surv, 78–86; asst. chemist and later *chemist, Ky. Agr. Exp. Sta, 86–; Ky. Geol. Surv, 04–* Adj. prof. chem, Kentucky, 78; chem. and nat. hist, Ky. Agr. and Mech. Col, 80; reporter on soils and ash, Ass. Off. Agr. Chemists, 94–95. Chem. Soc; Chem. Gesell. Agricultural analysis; composition of soils; composition of Kentucky forage plants and mineral waters.—Chemical analysis of distillery slop with reference to its feeding value soil analysis.

Peters, Dr. Amos W(illiam), Urbana, Ills. *Zoology.* Delphos, O, Aug. 10, 66. B.L, Western Reserve, 97; A.M, Harvard, 01, Austin fellow, 02–03, Ph.D, 03. *Instr.* chem. and biol, High Sch, Warren, O, 97–00; *zool, Illinois, 03–* Asst. zool, Harvard, 01–03. M.A.A; Soc. Zool. Methods for the study of Protozoa; metabolism in Protozoa; phosphorescence in ctenophores.—Metabolism of salts in Protozoa.

Peters, Dr. Fredus N(elson), 4154 Oak St, Kansas City, Mo. *Chemistry.* Epworth, Ia, Jan. 26, 64. A.B, Missouri, 87, A.M, 90; Chicago, 98, 01, 02; Ph.D, Ills. Wesleyan, 03. Principal, High Sch, Mexico, Mo, 87–89; Nevada, Mo, 90–92; supt. schools, Carrollton, Mo, 92–95; *instr. chem, High Sch, Kansas City, Mo, 95–* Chem. Soc. Acetylene; migration of ions; ionization.

Peters, G(eorge) H(enry), U. S. Naval Observatory, Washington, D. C. *Astronomy.* Hartford, Conn, Nov. 25, 63. High sch. and special study in astron, physics and optics. *Connected with U. S. Naval Observatory.* Astron. and Astrophys. Soc; Nat. Geog. Soc. Solar eclipses; spectroscopy; sun-spot record.—Solar corona; sun-spots; photographic observations of minor planets; properties of lenses.

Peterson, Dr. Frederick, 4 W. 50th St, New York, N. Y. *Nervous and mental diseases.* Faribault, Minn, March 1, 59. M.D, Buffalo, 79.

Prof. path, Buffalo, 82–84; nervous and mental diseases, Vermont, 88–89; chief of clinic, *Columbia*, 88–03, *clin. prof. psychiat, 03–* Pres, Board of Managers, Craig Colony for Epileptics, 94–01; pres, N. Y. State Lunacy Commission, 01–04. Hon. Ph.D, Niagara, 88. F.A.A; Neur. Ass; Am. Med. Ass; N. Y. Neur. Soc. (pres, 99–01); N. Y. Acad. Med; fel. N. Y. Acad. Nervous and mental diseases.

Petitdidier, O(ctave) L(éon), 5423 Lake Ave, Chicago, Ills. *Optics, Astronomy.* Villemagne, France, April 1, 53. Classical col. course and course in civil engineering, Aubenas, France. Connected with engineering corps of bridges and highways, Bédarieux, France, 70–72; civil engineer, Cincinnati, 73–75; U. S. asst. engineer, 76–94; *optician, 94–* Astron. and Astrophys. Soc. Astronomy; optics.—Making parallel plates to 1/20 λ; standards of the same accuracy.

Pettegrew, David Lyman, Box 75, Worcester, Mass. *Ancient history, Mathematics.* Lyme, N. H. Acad. and private instruction. M.A.A; Math. Soc; Am. Hist. Ass; N. Y. Acad. Ancient history; mathematics; antiquity of marine, fire and life insurance.

Pfaff, Dr. Franz, 29 Gloucester St, Boston, Mass. **Pharmacology, Therapeutics.* Grafenort, Silesia, March 16, 60. Ph.D, Zürich; M.D, Strasburg; L.S.A, London. Instr. physiol, *Harvard*, 94–95, pharmacol, 95–00, physiol. chem, 98–00, asst. prof. *pharmacol. and therapeut*, 00–05, *prof, 05–* Ass. Path. and Bact; Physiol. Soc; Am. Physicians; Therapeut. Soc; Soc. Exp. Biol. and Med. Pharmacology; therapeutics.

Pfister, Prof. Jos(eph) C(lement), 240 Sixth Ave, Newark, N. J. *Mechanics, Mathematical physics.* Newark, March 10, 67. A.B, Columbia, 89, fellow, 89–92, A.M, 90. Asst. math. and astron, *Columbia*, 89–90, tutor higher math. and astron, 90–93, *mech*, 93–01, instr, 01–05, *adj. prof, 05–* Math. Soc; fel. N. Y. Acad. Bibliography of mechanics.

Phelps, Earle B(ernard), Massachusetts Institute of Technology, Boston, Mass. *Sanitary chemistry.* Galesburg, Ills, July 10, 76. B.S, Mass. Inst. Tech, 99. Asst. bacteriologist, Lawrence Exp. Sta, Mass. Board Health, 99–03; *chemist and bacteriologist, Sanit. Research Lab. and Sewage Exp. Sta, Mass. Inst. Tech, 03–* Res. chemist, Springfield water supply investigations, 01; hydrog. aid, Div. Hydroecon, U. S. Geol. Surv. Soc. Bact; Chem. Soc; Pub. Health Ass; New Eng. Water Works Ass; Mass. Ass. Boards Health; Boston Soc. Civil Eng. Sewage purification and disposal; water supply and purification; treatment and disposal of trades' wastes; nitrification; chemistry of sewage.—Treatment and disposal of wastes from paper mills; nitrification.

Phelps, Dr. Isaac King, Yale University, New Haven, Conn. *Chemistry.* Enfield, Conn, Feb. 16, 72. A.B, 94, Silliman fellow, 94–97, Ph.D, 97; Thayer scholar, Harvard, 97–98; Heidelberg, 02. Asst. *chem, Yale*, 95–97, 98–99, *instr, 99–* Chem. Soc; Chem. Gesell. The determination of carbon dioxid; dehydromucic acid.—The analytical determination of the elements in organic substances.

Phelps, Dr. Martha Austin, Yale Station, New Haven, Conn. *Chemistry.* Georgia, Vt. B.S, Smith, 92; Ph.D, Yale, 98. Teacher, High Sch, Saratoga, N. Y, 92–03; Holyoke, Mass, 93–96; science teacher, R. I. Exp. Sta, 00–01; substituting in high sch. work, 01–03; science teacher, Wilson, 03–04. Double ammonium phosphates in analysis of Mg, Zn, Cd, etc; gravimetric determination of phosphoric acid; salts of manganese in analysis; quantitative determination of certain elements.

Phillips, Prof. Alexander H(amilton), Hodge Ave, Princeton, N. J. *Mineralogy, Chemistry.* Lawrenceville, N. J, May 15, 66. B.S, Princeton, 87, Sc.D, 99. Instr. biol. and miner, *Princeton*, 89–95, *miner*, 95–99, asst. prof, 99–03, *prof, 03–* Soc. Nat; Chem. Soc. Petrology; the mineralogical structure and chemical composition of the trap of Rocky Hill, New Jersey; radium in an American ore.—Structure and origin of some Patagonian rocks.

Phillips, Prof. Alfred E(dward), 407 33d St, Chicago, Ills. *Civil engineering.* Rouses Point, N. Y, June 18, 63. A.B, C.E, Union, 87, A.M, 90. Prof. civil eng, Purdue, 87–94; acting prof. bridge and hydraul. eng, Wisconsin, 95–96; *prof. civil eng, Armour Inst, 99–* Asst. engineer, N. Y. State Board of Health, 88; consulting engineer, 94–99. Hon. Ph.D, Union, 94. Civil Eng. Water supply; sewage treatment and disposal; streets and pavements.

Phillips, Prof. Andrew W(heeler), 209 York St, New Haven, Conn. *Mathematics.* Griswold, Conn, March 14, 44. Ph.B, Yale, 73, Ph.D, 77. Teacher *math*, Cheshire Acad, 64–77; instr, *Yale*, 77–81, asst. prof, 81–91, *prof, 91–, dean, Grad. Sch, 95–* Trustee, Cheshire Sch, 83–; Hopkins Grammar Sch, 85–; Hotchkiss Sch, 92–, pres, Board of Trustees, Hotchkiss Sch, 00–Hon. A.M, Trinity (Conn.), 77. F.A.A. (sec'y, A, 93); Math. Soc; Conn. Acad. Transcendental curves; orbit of comet V. 1880.

Phillips, Dr. D(aniel) E(dward), University Park, Colo. *Philosophy, Education.* Near Morgantown, W. Va, July 29, 65. Grad, Fairmount State Nor. Sch, 90; A.B, Nashville, 93, A.M, 94; Ph.D, Clark, 98. Teacher, Conference Sem, Buchannon, W. Va, 90–91; *prof.* pedag, Nor. Dept, Georgia, 95–97; *philos. and educ, Denver, 98–* Mem. W. Va. Board of Examiners, 90–92; lecturer philos. of ed, summer quarter, West Virginia, 99; psychol, La. Chatauqua and Tex.-Colo. Chatauqua, 00. Nat. Educ. Ass; Colo. Schoolmasters Club. The psychology of number; the teaching instinct.—The will.

Phillips, Dr. E(verett) F(ranklin), Biological Hall, University of Pennsylvania, Philadelphia, Pa. *Zoology.* Hannibal, O, Nov. 14, 78. A.B, Allegheny, 99; Pennsylvania, 01–03, fellow,

03–04, Ph.D, 04. Teacher science, High Sch, New Brighton, Pa, 99–00; *Harrison fellow, Pennsylvania, 04–* Soc. Zool; Econ. Entom; Nat, State and City Bee Keepers' Associations; Phila. Acad. Variation of drones and workers of the honey-bee; parthenogenesis; development of the compound eye of the honey-bee.—Parthenogenesis of the honey-bee.

Phillips, Prof. Francis C(lifford), Box 126, Allegheny, Pa. **Chemistry.* Philadelphia, Pa, April 2, 50. Pennsylvania, 78, Ph.D, 94. *Prof. chem, Western Univ. of Pa, 75–* F.A.A. (sec'y, C, 02); Chem. Soc; Min. Eng; Philos. Soc. Chemistry of gases.

Phillips, Prof. Paul C(hrysostom), Amherst, Mass. *Physical education, Hygiene.* Groton, Mass, Dec. 20, 65. A.B, Amherst, 88; M.D, Columbia, 95. Physical director, Y. M. C. A, Kansas City, Louisville, N. Y. City and Chicago, 88–96; *assoc. prof. physical educ. and hygiene, Amherst, 96–* Instr, Summer Sch, Western Secretarial Inst, 91–99. Ass. Adv. Physical Educ; Soc. Col. Gym. Directors (pres.); Soc. Research Physical Educ.

Phillips, P(hilip) Lee, 1707 H St, Washington, D. C. *Cartography. Chief, Div. Maps and Charts, Library of Congress, 97–* Librarian, Metropolitan Club, Washington. Decorated by Venezuela. Fel. Royal Geog. Soc; cor. mem. Inst. Archeol. e Geog. Pernambucano, Brazil. Maps and bibliography.—A list of atlases in the Library of Congress; a list of books and magazine articles on maps and map makers.

Phillips, Dr. W(illia)m B(attle), Terlingua, Brewster County, Tex. *Mining, Metallurgy.* Chapel Hill, N. C, July 4, 57. Ph.B, North Carolina, 77, Ph.D, 83; Sch. of Mines, Freiberg, 85–86. Chemist, N. C. Agr. Exp. Sta, 77–82; Navassa Guano Co, 82–85; prof. miner, North Carolina, 86–87; chem. and metal, Alabama, 90–92; prof. field and econ. geol, Texas, and director, Tex. Mineral Surv, 00–05. Chief of staff, 'Eng. and Min. Jour,' N. Y, 92–93; ed. 'Am. Mfg. and Iron World,' Pittsburg, 97–98. Min. Eng; Chem. Soc; Tex. Min. Ass. (pres.); West. Pa. Eng. Soc; N. of England Inst. Min. Eng. Economic geology; mining; metallurgy.—The mineral resources of Texas.

Phillips, Dr. W(illiam) F(owke) R(avenel), 1607 16th St, N. W, Washington, D. C. *Anatomy, Medical climatology.* Bedford Co, Va, July 13, 63. M.D, Columbian, 90. Medico-climatologist, U. S. Weather Bur, 95–04; prof. hygiene, *Med. Dept, George Washington,* 95–05, demonstrator anat, 00–04, *dean, 05–* Climat. Ass. (v. pres, 02, pres, 04); Nat. Geog. Soc; Wash. Philos. Soc; D. C. Med. Soc. Sunstroke; relation of clothing to temperature; sensible temperature; seasonal prevalence of pneumonia.

Phinney, J(ohn) I(nglee), 24 Langdon St, Cambridge, Mass. *Chemistry, Physics.* Machias, Me, Nov. 25, 68. Scott Hurtt scholar, Yale, 91–92, A.B, 92, Silliman fellow, 92–94; Thayer scholar, Harvard, 94–95. Asst, Chem. Lab, Yale, 92–94; private asst. org. chem, Harvard, 94–95; *head, Dept. Chem. and Physics,* Brockton High Sch, 95–97; *Cambridge Latin Sch, 97–* Chem. Soc; Eastern Ass. Physics Teachers. Spectroscopic analysis; picryl malonic ester derivatives.—Isomeric forms of picryl malonic ester; electrolytical deposition of cadmium.

Pickering, Prof. Edward C(harles), Harvard College Observatory, Cambridge, Mass. **Astronomy, Astrophysics.* Boston, Mass, July 19, 46. B.S, Harvard, 65. Instr. math, Lawrence Sci. Sch, Harvard, 65–67; *prof.* physics, Mass. Inst. Tech, 67–77; *astron. and director, Harvard Col. Observatory, 77–* LL.D, California, 86; Michigan, 87; Chicago, 01; Harvard, 03; Ph.D, Heidelberg, 03; Sc.D, Victoria (England), 00; Rumford, Draper, two Royal Astron. Soc. and other medals. Nat. Acad; F.A.A. (v. pres, 77); Astron. and Astrophys. Soc; Philos. Soc; fel. Am. Acad; Wash. Acad; cor. mem. N. Y. Acad; Soc. Astron. de Mex; Royal Astron. Soc; Soc. astron. de France; Societies of Cherbourg, Palermo, etc. Stellar photometry and spectroscopy.

Pickering, Prof. W(illiam) H(enry), Harvard Observatory, Cambridge, Mass. **Astronomy.* Boston, Mass, Feb. 15, 58. B.S, Mass. Inst. Tech, 79. Asst. and instr. physics, Mass. Inst. Tech, 80–87; asst. and *asst. prof. astron, Harvard Col. Observatory, 87–* Lalande prize, Paris Acad, 05. Astron. and Astrophys. Soc; fel. Am. Acad; Boston Math. Physical Club; hon. mem. Soc. Astron. de Mex; cor. mem. Toronto Astron. Soc. Photography; astronomy, particularly the solar system; Phoebe, Saturn's ninth satellite.—The moon; the leonids; brighter satellites of Jupiter.

Pickett, Dr. Tho(ma)s E(dward), Maysville, Ky. *Anthropology.* Mason Co, Ky, 41. A.B, Centre (Ky.), 60; M.D, Pennsylvania, 65. LL.D, Centre (Ky.). M.A.A; fel. Am. Acad. Med; British Ass. Anthropology; medicine; introduced into the United States art of massage and mobilization in the treatment of fractures.

Pierce, Prof. A(rthur) H(enry), Smith College, Northampton, Mass. **Psychology.* Westboro, Mass, July 30, 67. A.B, Amherst, 88; A.M, Harvard, 92; Berlin, Strasburg and Paris, 94–97; fellow, Amherst, 94–01; Ph.D, Harvard, 00. Instr. math, Amherst, 89–91; assoc. prof. *psychol, Smith,* 01–02, *prof, 02–* Psychol. Ass. Perception of auditory space; geometrical optical illusions.—Perception of simultaneity; color-blindness.

Pierce, Dr. G(eorge) W(ashington), Harvard University, Cambridge, Mass. *Physics.* Webberville, Tex, Jan. 11, 72. B.S, Texas, 93, A.M, 94; A.M, Harvard, 99, Ph.D, 00; Leipzig, 00–01. *Instr. physics, Harvard, 03–* Physical Soc. Electrical resonance; electric waves; liquid diffusion and supersaturation; resonance in wireless telegraph circuits.

Pierce, Newton B(arris), Pacific Coast Laboratory, U. S. Department of Agriculture, Santa Ana, Cal. *Vegetable pathology, Plant breeding.* Brockport, N. Y, Sept. 26, 56. High Sch; nat.

science work in private lab, 72–87; Mus. Comp. Zool, Cambridge, 82–83; Michigan, 87–89. Chief inspector lumber, Ludington, Mich, 74–88; *in charge, Pacific Coast Lab. of Veg. Path, U. S. Dept. Agr, 89–*, established Wild Plant Improvement Gardens, 02. F.A.A; Soc. Bact; life mem. Breeders' Ass; Cal. Entom. Club; life mem. Mich. and Ills. Hort. Societies; Int. Ass. Bot. Entomology; bacterial plant diseases; mycology; plant breeding.—Bacterial walnut disease; hybridizations among nut trees; new and destructive vine diseases; wild plant improvement.

Pierce, P(erry) B(enjamin), 1421 29th St, Washington, D. C. *Technology.* Canton, N. Y, Nov. 9, 40. A.B, Hobart, 65, A.M, 68; LL.B, Columbian, 76. Head master, Edward's Place Sch, Stockbridge, Mass, 73–75; asst. examiner, *U. S. Patent Office*, 76–83, *principal examiner, 83–* Mem. Jury of Awards, Pan.-Am. Expos, 01. F.A.A; Am. Hist. Ass; Folk-lore Soc; Wash. Anthrop. Soc. (treas, 05). Meteorology; photography; telegraphy.—Wireless telegraphy.

Pierpont, Prof. James, Yale University, New Haven, Conn. **Mathematics.* B.S, Worcester, 87; Ph.D, Vienna, 94. *Prof. math, Yale.* Math. Soc.

Piersol, Prof. Geo(rge) A(rthur), 4724 Chester Ave, Philadelphia, Pa. **Anatomy, Histology, Embryology.* Philadelphia, May 17, 56. C.E, Polytech. Col. of Pa, 74; M.D, Pennsylvania, 77; Berlin, 86–87; Würzburg, 87–88; Berlin, 91. Asst. demonstrator histol, Med. Dept, *Pennsylvania*, 77–82, demonstrator, 82–00, *prof.* histol. and embryol, 00–01, *anat, 01–* Mem. Board of Editors, 'Am. Jour. Anat.' F.A.A; Ass. Anat; Soc. Zool; Philos. Soc; fel. Phila. Col. Physicians; Phila. Acad. Histology and embryology relating to sense organs; development of the pharynx, monstrosities, pigment, etc.—Development of the urogenital tract; origin of lymphoid tissue.

Pieters, A(drian) J(ohn), Takoma Park, D. C. **Botany.* Alto, Wis, Nov. 18, 66. B.S, Michigan, 94. Asst. botanist, *U. S. Dept. Agr*, 95–00, *botanist in charge seed and plant introduction and distribution, 00–* Soc. Plant Morph. and Physiol; Soc. Hort. Sci; Wash. Bot. Soc; Wash. Acad. Aquatic plants; germination of seeds.

Pillsbury, Prof. J(ohn) H(enry), Waban School, Waban, Mass. *Mathematics, Science.* Limington, Me, Dec. 20, 46. A.B, Wesleyan, 74, A.M, 77. Teacher, Wilbraham Acad, 74–75; asst. nat. hist, Wesleyan, 75–77; principal, Limington Acad, 77; instr, High Sch, Springfield, Mass, 77–84; prof. biol, Smith, 84–92; univ. extension lecturer, 92–93; instr. comp. anat, Med. Sch, Boston, 94–95; *principal, Waban Sch, 99–* Ed. biol. notes, 'Jour. Micros,' 90–92. F.A.A; Soc. Nat. Standards of color by measurement.—Areas of color sense in the retina.

Pillsbury, Prof. W(alter) B(owers), 1218 S. University Ave, Ann Arbor, Mich. **Psychology.* Burlington, Ia, July 21, 72. Penn, 88–90; A.B, Nebraska, 92; Ph.D, Cornell, 96. Instr. math, Grand Island, 92–93; asst. psychol, Cornell, 95–97; instr, *Michigan*, 97–00, asst. prof. *philos. and director, Psychol. Lab*, 00–05, *junior prof, 05–* Collaborator, 'Am. Jour. Psychol,' 97–; 'Index Philos,' 04– Psychol. Ass. Reading; circulation in relation to consciousness; fatigue of sensory processes; attention.—Psychology of reasoning.

Pilsbry, Dr. H(enry) A(ugustus), Seventh St, Oak Lane, Philadelphia, Pa. **Malacology, Paleontology.* Iowa City, Ia, Dec. 7, 62. B.S, Iowa. *Special curator, Dept. Mollusca, Acad. Nat. Sciences, Phila, 88–* Ed, 'The Nautilus,' 89–03. Hon. Sc.D, Iowa. Philos. Soc; Phila. Acad; London Malacol. Soc. Anatomy and phylogeny of land mollusks, of Polylacophora, etc; American and Japanese fauna.—Evolutionary processes in Mollusca.

Pinchot, Gifford, 1615 Rhode Island Ave, Washington, D. C. **Forestry.* Simsbury, Conn, Aug. 11, 65. A.B, Yale, 89; Nancy, 90. Consulting forester, 92–98; in charge forestry, Biltmore estate, 92–94; mem. Nat. Forest Commission, Nat. Acad, 95–96; confidential forest agent to Sec'y of the Interior, 97; *forester, U. S. Dept. Agr, 98–* Mem. Committee on Organization of Govt. Sci. Work and of Commission on Pub. Lands, 03–; on Govt. Dept. Methods, 05– Hon. A.M, Yale, 01; Princeton, 04. F.A.A; Forestry Ass; Soc. Foresters; Soc. Prom. Agr. Sci; Min. Eng; Civil Eng; Nat. Geog. Soc; Am. Geog. Soc; Econ. Ass; Wash. Acad. Forestry in general; forest policy.—Directing research covering nearly the whole field of forestry in the United States.

Pinney, Mrs. Augusta Robinson, 350 Central St, Springfield, Mass. *Entomology, Botany.* Orange, N. J. Private sch. Principal, Intermediate Dept, and teacher of physiol, zool. and art, Miss Robinson's Sch. for Young Ladies, 68–88. M.A.A; Springfield Zool. Club. Injurious insects and their enemies; bugs that are useful in keeping down injurious insects.—Earthworms.

Piper, Prof. Charles V(ancouver), U. S. Department of Agriculture, Washington, D.C. *Botany, Entomology.* Victoria, B. C, June 16, 67. B.S, Washington (Seattle), 85, M.S, 92; M.S, Harvard, 00. Prof. entom, Wash. Agr. Col, 92–93, bot. and zool, 93–03; syst. agrostologist, *U. S. Dept. Agr*, 03–04, *agrostologist, 05–* F.A.A; Nat. Geog. Soc; Wash. Bot, Entom. and Biol. Societies. Systematic botany; Phanerogamia.—Flora of Washington; forage plants.

Pirsson, Prof. L(ouis) V(alentine), 41 Trumbull St, New Haven, Conn. **Geology.* New York, N. Y, Nov. 3, 60. Ph.B, Yale, 82; Heidelberg and Paris, 91–92; A.M, Yale, 02. Asst, Chem. Lab, Sheffield Sci. Sch, *Yale*, 82–85, instr, 85–88, miner. and lithol, 92–93, *geol*, 93–94, asst. prof, 94–97, *prof, 97–* Geologist, U. S. Geol. Surv; asst. ed, 'Am. Jour. Science.' Mem. Int. Committee Petrog, Int. Cong. Geol, Paris, 00. Geol. Soc; Wash. Geol. Soc; Wash. Acad; Conn. Acad; Stockholm Geol. Soc. Geology, especially

petrography.—Geology of the Highwood, Castle, Little Belt, Judith, Bearpaw and other mountain groups of central Montana.

Pitman, Benn, 1852 Columbia Ave, Cincinnati, O. *Phonetics, Phonography.* Trowbridge, Wilts, England, July 24, 22. Isaac Pitman Acad. Founder and *pres, Phonographic Inst. Co, Cincinnati, 53–* Teacher practical art, lecturer decorative art, Cincinnati Art. Acad, 73–92. Phonography; history of shorthand; invented electro-process of relief engraving.—Action of the organs of speech in the production of vocal and articulate sounds; phases of intellectual development as indicated by decorative forms.

Plumb, Prof. C(harles) S(umner), Ohio State University, Columbus, O. *Animal husbandry.* Westfield, Mass, April 21, 60. B.S, Mass. Agr. Col, 82. Asst. ed, 'Rural New Yorker,' 83–84; first asst, N. Y. Agr. Exp. Sta, Geneva, 83–87; prof. agr, Tennessee, and asst. director, Tenn. Agr. Exp. Sta, 87–90; prof. animal husbandry and dairying, Purdue, and director, Ind. Agr. Exp. Sta, 91–02; *prof. animal husbandry, Ohio State, 02–* Soc. Prom. Agr. Sci; Am. Cheviot Sheep Soc. (pres.). The conformation of animals and relationship to production.—The udder and relationship of form to production.

Plumley, Gardner L(add), New Haven, Conn. *Science of life insurance.* New Jersey, Feb. 14, 62. Cooper Union; Stevens. Prof. science and manual training, Leland, 87; teacher math. and science, Irving Inst, 88–89; in charge mortuary statistics, Mutual Life Ins. Co, New York, 89–93; asst. actuary, Home Life Ins. Co, 93–03; *public accountant, New Haven, Conn, 04–* Math. Soc; Actuarial Soc. Mathematics of life insurance.

Plympton, Prof. Geo(rge) W(ashington), 127 Herkimer St, Brooklyn, N. Y. *Mechanics, Civil engineering.* Waltham, Mass, Nov. 18, 27. C.E, Rensselaer, 47. *Prof.* eng. and archit, Cleveland, 52; math, N. Y. State Nor. Sch, 53–55; math. and physics, N. J. State Nor. Sch, 56–58; math, N. Y. State Nor. Sch, 58–60; math. and physics, N. J. State Nor. Sch, 61–63; *physics and eng, Brooklyn Polytech, 63–* Prof. chem. and toxicol, Long Isl. Col. Hosp, 65–86; physics and eng, Night Sch, Cooper Union, 69–, director, 79–; ed, 'Van Nostrand's Magazine,' 70–86; pres, Commission Elec. Subways, 85–89, 92–96. Hon. A.M, Hamilton, 54; M.D, Long Isl. Col. Hosp, 86. Civil Eng. Strength and elasticity of glass and of iron bars.

Pohlman, Dr. Julius, 404 Franklin St, Buffalo, N. Y. *Geology, Physiology, Physiological optics.* Hamburg, Germany, Jan. 26, 48. Col. of Navigation, Hamburg, 68; M.D, Buffalo, 83. Director, Mus, Soc. Nat. Sciences, Buffalo, 80–90; prof. physiol, Buffalo, 85–00. F.A.A. (gen. sec'y, 88); Geol. Soc; Nat. Geog. Soc; Statist. Ass; Forestry Ass; Acad. Polit. and Social Sci; cor. mem. Rochester Acad. Fauna and flora of waterlime group at Buffalo; geology of Niagara Falls and Erie County, N. Y; physiology.

Polk, Dr. W(illia)m M(ecklenberg), 7 E. 36th St, New York, N. Y. *Gynecology.* Ashwood, Tenn, Aug. 15, 44. Grad, Va. Mil. Inst, 63; Louisiana, 66–67; M.D, Columbia, 69. *Prof.* therapeut. and clin. med, Bellevue Med. Col, 75–79; obstet. and gynec, Med. Dept, N. Y. Univ, 80–98; *gynec, dean and director, Med. Dept, Cornell, 98–* On visiting staff, Bellevue Hosp, 74–, curator, Path. Dept, and asst. demonstrator anat. LL.D, Univ. of the South, 91; Columbia, 04. Am. Physicians; Gynec. Soc; Physicians Mut. Aid Ass; N. Y. Co. Med. Soc; N. Y. Acad. Med; N. Y. Path, Obstet, Med, Surg. and Practitioners Societies; Int. Soc. Gynec; British Gynec. Soc; Soc. d'Obstét, de Gynec. et de Pediat. de Paris. Medicine; surgical disorders of the female genito-urinary system.

Pollard, Charles Louis, 1854 Fifth St, Washington, D. C. *Botany.* New York, N. Y, March 29, 72. A.B, Columbia, 93, A.M, 94. Asst. curator, U. S. Dept. Agr, 94–95; Div. of Plants, U. S. Nat. Mus, 95–03; *consulting botanist, G. and C. Merriam Co, Springfield, Mass, 03–* Ed, 'Plant World,' 99–; contributor bot. terms, 'Suppl. Webster's Int. Dict,' 00; 'Century Dict,' 03. F.A.A; Wild Flower Preservation Soc. (sec'y, 02–03); Torrey Bot. Club; Wash. Bot. Soc. (sec'y, 01–03); Wash. Biol. Soc. (councilor, 96, chairman, Pub. Committee, 01); Wash. Biol. Field Club (pres, 00); hon. mem. Phila. Bot. Club. Systematic botany of North America; the Caesalpiniaceae and Violaceae.—North American Violaceae; dictionary of botany.

Pollitzer, Dr. S(igmund), 64 E. 58th St, New York, N. Y. *Medicine.* Richmond Co, N. Y, June 12, 59. A.B, Col. City of N. Y, 79, A.M, 82; M.D, Columbia, 84; Heidelberg, Berlin and Vienna, 84–86; Hamburg, 89–90. Ass. Path. and Bact; Dermat. Ass; Am. Med. Ass; N. Y. State Med. Ass; N. Y. Acad. Med. Physiology; dermatology.

Pollock, Dr. H(oratio) M, 3 Sprague Place, Albany, N. Y. *Biology.* Patria, N. Y, Sept. 2, 68. B.S, Union, 95, M.S, 97; Ph.D, Leipzig, 97. Teacher science and German, High Sch, Albany, 97–00; *senior examiner, N. Y. State Civil Service Commission, 00–; assoc. ed, 'Am. Educ,' 05–* M.A.A; Albany Entom. Soc. (treas, 99–). Anatomy of water mites.—Civil service problems; moral education.

Pollock, Dr. Ja(me)s B(arkley), 922 Church St, Ann Arbor, Mich. *Botany, Plant pathology.* Orangeville, Ills, Nov. 10, 63. B.S, Wisconsin, 93, M.S, 96; Sc.D, Michigan, 97; Leipzig, 97–98. Teacher biol, High Sch, Austin, Ills, 94–95; asst. *bot, Michigan, 95–97, instr, 98–* Soc. Nat; Soc. Plant Morph. and Physiol; Bot. Cent. States; Mich. Acad. (sec'y and ed, 01–03). Mechanism of traumatropic curvature of roots; transition from stem to root in Echinocystis lobata; variation of the prothallium in pollen grains of Picea excelsa Link; plant pathology; mycology.

Pond, Prof. F(rancis) J(ones), Stevens Institute, Hoboken, N. J. *Chemistry.* Holliston, Mass, April 8, 71. B.S, Pa. State, 92; Ph.D, Göttingen, 96. Instr. assaying, Pa. State, 96–01, metal, 99–01, *asst. prof.* assaying and chem, 01–03; *eng. chem, Stevens, 03–* M.A.A; Chem. Soc. Organic chemistry; chemistry of the terpenes.—Eugenol, safrol, anethol and apiol.

Pond, Prof. G(eorge) G(ilbert), State College, Pa. **Chemistry.* Holliston, Mass, March 29, 61. A.B, Amherst, 81, A.M, 84, Ph.D, 89; Göttingen, 81–82, 85; Berlin, 93–94. Instr. *chem,* Amherst, 83–88; *prof, Pa. State, 88–, dean, Sch. Nat. Sci, 96–* Mem. Jury of Awards, Pan-Am. Expos, 01. F.A.A; Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Chem. Verein.

Pond, Dr. R(aymond) H(aines), 87 Lake St, Chicago, Ills. *Plant physiology.* Topeka, Kas, March 3, 75. B.S, Kas. State Agr. Col, 98, M.S, 99; Ph.D, Michigan, 02. Asst. bot, Kas. State Agr. Col, 95–97, bot. and chem, 97–98; asst, Herbarium, Michigan, 98–99, asst. plant physiol, 99–00; bot. and path, Md. Agr. Col. and Exp. Sta, 00–01; *prof. bot. and pharmacog. and director, Micros. Lab, Northwestern, 03–* Special asst, U. S. Fish Commission, 99–00, 01. F.A.A; The biologic relation of aquatic plants to the substratum; the endosperm enzyme of Phoenix dactylifera.

Pool, Dr. Eugene H(illhouse), 57 W. 45th St, New York, N. Y. *Surgery.* New York, June 3, 74. A.B, Harvard, 95; M.D, Columbia, 99. Interne, N. Y. Hosp, 99–01; asst. demonstrator anat, *Columbia,* 01–04, *instr. surg, 04–* Surgeon, French Hosp, N. Y. City. Greater N. Y. Med. Soc; N. Y. Co. Med. Soc; N. Y. Acad. Med; N. Y. Path. Soc.

Poor, Dr. Charles Lane, Columbia University, New York, N. Y. **Astronomy, Astrophysics.* Hackensack, N. J, Jan. 18, 66. B.S, Col. City of N. Y, 86, M.S, 90; Ph.D, Hopkins, 92. Instr. math, Col. City of N. Y, 86–88; instr. and later assoc. and assoc. prof. *astron,* Hopkins, 91–00; lecturer, *Columbia,* 03–04, *prof, 04–* Astron. and Astrophys. Soc; Math. Soc; assoc. fel. Am. Acad; fel. N. Y. Acad. (ed, 'Annals,' 01–); fel. Royal Astron. Soc; Leipzig Astron. Gesell. Astronomy and astrophysics.

Poor, Dr. John M(errill), Shattuck Observatory, Hanover, N. H. *Astronomy.* West Newbury, Mass, Jan. 28, 71. A.B, Dartmouth, 97; fellow, Princeton, 00–02, Ph.D, 04. Principal, High Sch, Hanover, 97–98; *instr.* math. and astron, *Dartmouth,* 98–00, *astron, 03–* M.A.A; Astron. and Astrophys. Soc; Math. Soc; Soc. Belge d'Astron. Definitive orbit of comet 1900 b.

Porter, Prof. Albert B(rown), 1024 Lake Shore Drive, Evanston, Ills. *Physics.* Indianapolis, Ind, March 16, 64. B.S, Purdue, 84; Hopkins, 91–93. Instr, High Sch, Richmond, Ind, 84–91; prof. physics, Armour Inst, 94–03; *consultant and importer, 03–* M.A.A; Physical Soc; Chem. Soc.

Porter, Prof. Dwight, 149 Hawthorne St, Malden, Mass. *Hydraulic engineering.* Hartford, Conn, Aug. 28, 55. Ph.B, Yale, 80. Special agent on water power reports, Tenth Census, 80–83; instr. math, *Mass. Inst. Tech,* 83–85, civil eng, 85–87, asst. prof, 87–90, assoc. prof, 90–96, *prof. hydraul. eng, 96–* Civil Eng; Eng. Educ; New Eng. Water Works Ass; Boston Soc. Civil Eng. Flow of water.

Porter, Dr. Horace C(hamberlain), The Solvay Process Co, Syracuse, N. Y. *Chemistry.* Urbana, Ills, July 13, 76. A.B, Illinois, 97, B.S, 99, M.S, 00; A.M, Harvard, 01, Ph.D, 03. *Chemist, Solvay Process Co, Syracuse, 03–* Chem. Soc; Chem. Gesell. Chemistry of foods and digestion; pure organic chemistry; orthobenzoquinone.

Porter, Dr. J(ames) P(ertice), Clark College, Worcester, Mass. *Psychology.* Hillsboro, Ind, Sept. 23, 73. A.B, Indiana, 98, A.M, 01; hon. fellow, Clark, 03–04, Ph.D, 05. Teacher, High Sch, Veedersburg, Ind, 93–94; principal, Kentland, 95–97; teacher science, Streator, Ills, 98–00; *instr. psychol,* Indiana, 00–03; *Clark Col, 03–* Instr. neur, Biol. Sta, Indiana, summers, 01–03. Psychology of the English sparrow.—Changes of the abductor indices in endurance, educability and ability to recover with age; instinct in spiders; psychology of the English sparrow and other birds.

Porter, Prof. J(ermain) G(ildersleeve), Station O, Cincinnati, O. **Astronomy.* Buffalo, N. Y, Jan. 8, 52. A.B, Hamilton, 73; Berlin, 73–74; A.M, Hamilton, 76. Asst. prof. astron, Hamilton, 75–78; with U. S. Coast and Geod. Surv, 78–84; *director, Cincinnati Observatory, 84–* Hon. Ph.D, Hamilton, 88. Proper motion of stars; motion of the solar system in space; variation of latitude.

Porter, Prof. J(ohn) B(onsall), 392 Pine Ave, Montreal, Can. *Mining engineering.* E.M, Columbia, 82, Ph.D, 84. Instr. mining and mech. eng, Cincinnati, 84–87; mining and railroad engineer, 88–95; *prof. mining eng, McGill, 96–* Hon. Sc.D, Cape Town, 05. Geol. Soc; Min. Eng; Can. Civil Eng. (pres, Sect, and councilor); Can. Min. Inst. (mem. Council); British Inst. Civil Eng; British Inst. Min. Eng. Ore dressing and concentration; local problems in economic geology.—Theoretical considerations underlying the mechanical separation of minerals; engineering education.

Porter, Prof. M(ilton) B(rockett), University of Texas, Austin, Tex. **Mathematics.* Sherman, Tex, Nov. 22, 69. B.S, Texas, 92; A.M, Harvard, 95, Ph.D, 97. Instr. *math,* Texas, 97–99; *Yale,* 99–02, asst. prof, 02–04; *prof, Texas, 04–* Math. Soc. (asst. ed, 'Trans.'); Math. Verein. Differential equations; function theory.

Porter, Prof. R(oyal) A(rthur), 808 Ostrom Ave, Syracuse, N. Y. *Experimental physics.* Adair, Ills, Feb. 8, 77. B.S, Northwestern, 01, M.S, 02. Instr. *physics, Syracuse,* 02–05, *asst. prof, 05–* Physical Soc. Influence of atmosphere

on arc spectra.—Electrolytic effect of alternating current.

Porter, Prof. W(illiam) T(ownsend), Medfield, Mass. **Physiology.* Plymouth, O, Sept. 24, 62. M.D, St. Louis Med. Col, 85; Kiel, Berlin and Breslau, 87–93. Acting supt, St. Louis City Hosp, 86–87; asst. prof. *physiol*, St. Louis Med. Col, 87–88, prof, 88–93; asst. prof, *Harvard Med. Sch*, 93–98, *assoc. prof, 98–* Managing ed, 'Am. Jour. Physiol.' F.A.A; Physiol. Soc; Soc. Exp. Biol. and Med; Am. Med. Ass; Am. Acad; Mass. Med. Soc. Physiology of growth; the circulation; the spinal cord; respiration; muscle; physiological apparatus.

Post, Charles A(lfred), 'Strandhome,' Bayport, L. I, N. Y. *Astronomy.* New York, N. Y, Jan. 6, 44. LL.B, Columbia, 65. Hon. A.M, Columbia, 00. F.A.A; Astron. and Astrophys. Soc; Pacific Astron. Soc; fel. N. Y. Acad; fel. Royal Astron. Soc. Astronomical photography. —Meteor radiants.

Potamian, Brother (Michael Francis O'Reilly), Manhattan College, New York, N. Y. *Physics.* Cavan, Ireland, Sept. 29, 47. B.S, London, 79, Sc.D, 83. *Prof.* math. and exp. physics, St. Joseph's Col, London, 79–93; *physics, Manhattan, 96–* Mem. Jury of Awards, Columbian Expos, 93. Epochs in the history of electric and magnetic discovery; electric illumination.

Poteat, Prof. W(illia)m L(ouis), Wake Forest, N. C. *Biology.* Caswell Co, N. C, Oct. 20, 56. A.B, Wake Forest, 77; Berlin, 88; A.M, Wake Forest, 89; Woods Hole, 93. Tutor classics, *Wake Forest*, 78–80, asst. prof. nat. science, 80–83, prof. biol, 83–05, *pres, 05–* Pres, N. C. Teachers' Assembly, 97; mem. State Board Examiners, 97, 98; Gay lecturer, Theol. Sem, Louisville, Ky, 00; Brooks lecturer, Hamilton Theol. Sem, Colgate, 05. M.A.A; fel. N. C. Acad. (pres, 02). Protozoa; Algae.—North Carolina desmids.

Potter, Dr. Henry Noel, New Rochelle, N. Y. *Electrical engineering.* Rochester, N. Y, Jan. 20, 69. B.S, Amherst, 91; Berlin, 94; Göttingen, 95–98. With Westinghouse Elec. and Mfg. Co, 91–94; *with Mr. Geo. C. Westinghouse as special engineer, 98–;* asst. to Prof. Walther Nernst, Göttingen, 98; *in charge private research laboratory of Mr. Westinghouse, 03–; Eng. Exp. Dept, Sawyer-Man Elec. Co, 04–* Hon. Sc.D, Amherst, 05. Am. delegate, Sixth Int. Cong. Applied Chem. Elec. Eng; Electrochem. Soc. Metallic arcs with alternating current; nonarcing switching devices for alternating currents; electrical properties of iron at high temperatures; dry electrolytes; mercury vapor lamps; electric furnace development.—Vacuum and pressure furnaces; practical application of electric furnace methods to commercial materials; silicon and its uses.

Potter, Dr. Peter, Grand Ave. and Caroline St, St. Louis, Mo. *Anatomy.* Dade Co, Mo, Nov. 24, 75. B.S, Missouri, 01, M.S, M.D, 03. Instr. biol, Acad, Columbia, Mo, 96–99; biol. and physics, High Sch, 99–00; asst. *anat*, Missouri, 01–03; *assoc. prof, St. Louis, 03–* Ass. Anat; St. Louis Biol. Soc; St. Louis Med. Sci. Club. Human topographic anatomy.—Topography of the thoracic and abdominal viscera (by the cross section method).

Potter, W(illiam) B(ancroft), General Electric Co, Schenectady, N. Y. *Electrical engineering.* Thomaston, Conn, Feb. 19, 63. High Sch. With E. H. Judd (machinist), Hartford, Conn, 81–87; steam and elec. construction, Thomson-Houston Elec. Co, 87–90, asst, Ry. Eng. Dept, 90–95; *chief engineer, Ry. Dept, Gen. Elec. Co, 95–* M.A.A; Elec. Eng; Mech. Eng; Civil Eng.

Potts, Dr. Louis M(axwell), Care The Rowland Telegraphic Co, 107 E. Lombard St, Baltimore, Md. *Physics.* Canonsburg, Pa, Oct. 30, 76. A.B, Washington and Jefferson, 96; Ph.D, Hopkins, 00. Teacher, High Sch, Washington, Pa, 96–97; student asst, Hopkins, 99–00; elec. engineer, *Rowland Telegraphic Co*, 00–02, constructing engineer, 02–04, *chief engineer, 04–* Physical Soc; assoc. Elec. Eng. Measurements of alternating currents by the electrodynamometer.

Pound, Dr. Roscoe, 1969 A St, Lincoln, Nebr. **Botany.* Lincoln, Oct. 27, 70. A.B, Nebraska, 88, A.M, 89; Harvard Law Sch, 89–90; Ph.D, Nebraska, 97. Asst. bot, Nebraska, 88–89; *director, Nebr. Bot. Surv, 92–;* judge, Supreme Court, Nebr, 01–03; *dean, Col. of Law, Nebraska, 03–* Assoc. Bot. Soc; Micros. Soc; Am. Bar Ass. Phytogeography.—The vegetation of Nebraska.

Powell, G(eorge) Harold, U. S. Department of Agriculture, Washington, D. C. *Pomology.* Ghent, N. Y, Feb. 8, 72. B.S.A, Cornell, 95, M.S.A, 96. Horticulturist and entomologist, Delaware, 96–98, horticulturist, 98–01; asst. pomologist, *U. S. Dept. Agr*, 01–03, *pomologist* in charge fruit storage investigations, 03–04, *in charge fruit transportation and storage, 05–* Pomol. Soc; Soc. Hort. Sci; Wash. Bot. Soc. Fruit transportation and storage.—Cold storage of fruits; the refrigeration of fruits in transportation.

Power, Dr. Frederick B(elding), 6 King St, Snow Hill, London, E. C, England. *Chemistry.* Hudson, N. Y, March 4, 53. Phila. Col. Pharmacy, 72–74; Ph.D, Strasburg, 80. In charge, Chem. Lab, Phila. Col. Pharmacy, 80–83; prof. pharmaceut. chem. and mat. med, Wisconsin, 83–92; *director*, Laboratories, Fritzsche Brothers, 92–96; *Wellcome Chem. Research Laboratories, London, 96–* U. S. delegate, Int. Cong. for Unification of Formulae of Potent Medicaments, Brussels, 02. F.A.A; Chem. Soc; Pharmaceut. Ass; hon. mem. Wis. Pharmaceut. Ass; hon. mem. Phila. Col. Pharm; London Chem. Soc; London Soc. Chem. Indust; London Soc. Arts; Chem. Gesell; hon. mem. Soc. Royale Pharm. de Bruxelles. Phytochemistry; essential and fatty oils.

Powers, Dr. L(e)G(rand), 3007 15th St, Washington, D. C. *Statistics.* Preston, N. Y, July 21, 47. Tufts, 68–70; A.B, Iowa, 72. Commissioner of labor, Minn, 89–99; *chief statistician, Twelfth*

Census, 99– Sec'y to officials of U. S. Bureau of Labor Statist. Litt.D, Tufts, 00. F.A.A; Econ. Ass; Statist. Ass; Acad. Polit. and Social Sci. Farm mortgages; organization of labor; economics of agriculture.—Economics of agriculture.

Prang, Louis, 45 Centre St, Boston, Mass. *Color.* Breslau, Germany, March 12, 24. German pub. and tech. schools. *Lithographer, colorprinter, author and publisher, Boston, 51–* Diplomas and gold medals from all Int. Expositions since 1873. M.A.A; Archeol. Soc. Color in its practical application in the arts, in education and in the establishment of a permanent standard for practical use.

Prather, Prof. John M(cClellan), Central High School, St. Louis, Mo. *Biology, Zoology.* Felicity, O, Sept. 8, 64. A.B, Antioch, 91; A.B, Harvard, 94, A.M, 95; Ph.D, Chicago, 01. Teacher, Enon, O, 88–89; principal schools, Bryant, S. Dak, 91–93; prof. biol. and physics, Antioch, 97–99; *instr. biol,* Cincinnnati, 01–02; *High Sch, St. Louis, 02–* Lab. asst. bot. and zool, Harvard, 94–96; asst. embryol, Chicago, 01. M.A.A; Soc. Zool; Ohio Acad; Cincinnati Soc. Nat. Hist. Early stages in development of hypophysis in Amra; the skeleton of Salanx microdon with remarks on the life history, taxonomy, etc.—The lateral line system in Salanx microdon.

Pratt, Frederick H(aven), Worcester, Mass. *Physiology.* Worcester, July 19, 73. A.B, Harvard, 96, A.M, 98. Asst. physiol, Harvard, 01. Nutrition of heart and anatomy of cardiac vessels.

Pratt, Prof. Henry S(herring), Haverford College, Haverford, Pa. **Zoology.* Toledo, O, Aug. 18, 59. A.B, Michigan, 82; admitted to Ohio Bar, 85; Leipzig, Freiburg and Geneva, 88–92; Ph.D, Leipzig, 92; Harvard, 92–93; Innsbruck, 02–03. Instr. *biol, Haverford,* 93–98, assoc. prof, 98–01, *prof, 01–* Instr. comp. anat, Cold Spring Harbor, 96– Soc. Nat; Soc. Zool. (sec'y-treas, East. Branch); Cambridge Entom. Soc. (pres, 97). Embryology and metamorphoses of insects; trematodes; invertebrate zoology.—Structure and classification of trematodes; metamorphoses of Diptera.

Pratt, J(ohn) F(rancis), U. S. Coast and Geodetic Survey, Washington, D. C. *Geodesy, Topography, Hydrography.* Pomfret, Vt, June 18, 48. B.S, Dartmouth, 71. Aid, *U. S. Coast and Geod. Surv,* 71–79, sub-asst, 79–84, *asst, 84–* Asst. astronomer, Transit of Mercury Exped, 78; Venus, 82; chief, Alaska Boundary Expeditions, 92–94; Exploration and Survey of Delta of Yukon River, 98; in command, Magnetic Exped. to N. Pacific Ocean, Carnegie Inst, 05. M.A.A; Wash. Acad; Thayer Soc. Eng. Practical geodesy.—Commercial development of Alaska and Hawaiian Islands.

Pratt, Dr. Joseph H(ersey), 143 Newbury St, Boston, Mass. *Pathology, Medicine.* Middleboro, Mass, Dec. 5, 72. Ph.B, Yale, 94; M.D, Hopkins, 98; A.M, Harvard, 01. Asst. path, Boston City Hosp, 98–00, asst. visiting pathologist, 01–02; instr. path, *Harvard,* 00–02, *asst. theory and practise of physic, 02–* Ass. Path. and Bact; Soc. Exp. Biol. and Med; Boston Soc. Med. Sci. Histology of pneumonia; the blood platelets; filaria sanguinis hominis; benign tumors of the thyroid gland.—The pathology of the blood platelets; composition of the fecal fats.

Pratt, Dr. Joseph Hyde, Chapel Hill, N. C. *Geology, Mineralogy.* Hartford, Conn, Feb. 3, 70. Ph.B, Yale, 93, Ph.D, 96. Instr. miner, Yale, 95–97; *state mineralogist, N. C. Geol. Surv, 97–;* lecturer, *North Carolina,* 98–04, *prof. econ. geol, 04–* Field asst. geologist, U. S. Geol. Surv, 99. F.A.A; Geol. Soc; Min. Eng; Chem. Soc; Am. Geog. Soc; N. Y. Acad. The occurrence and origin of ore deposits.

Preble, Edward A(lexander), Biological Survey, U. S. Department of Agriculture, Washington, D. C. *Ornithology, Mammalogy.* Somerville, Mass, June 11, 71. High Sch. *Field naturalist and asst. biologist, Biol. Surv, U. S. Dept. Agr, 92–* Mem. Ornith. Union; Nat. Geog. Soc; Wash. Biol. Soc. General studies in ornithology and mammalogy; biology of the Hudson Bay region.—Biology of the Athabasca and Mackenzie regions, Canada.

Prentiss, Dr. C(harles) W(illiam), University of Washington, Seattle, Wash. **Zoology.* Washington, D. C, Aug. 14, 74. A.B, Middlebury, 96, A.M, 97; A.M, Harvard, 98, Ph.D, 00, Parker fellow (Freiburg), 01–02; Smithsonian Inst. Table, Naples Zool. Sta, 02. Asst. zool, Harvard, 97–00, instr. anat, 00–01; instr. in charge, Biol. Dept, Western Reserve, 03–04; instr. biol, Manual Training Sch, Washington (St. Louis), 04–05; *asst. prof. biol. and acting prof. zool, Washington (Seattle), 05–* Collaborator, 'Jour. Neur.' Soc. Nat; Soc. Zool; Ass. Anat. The otocyst of decapod Crustacea; abnormalities in worms; polydactylism; nervous structures in the palate of the frog; neurofibrillar structures in the ganglia of the leech and crayfish.—Auditory organs of Cephalopoda.

Prentiss, Prof. R(obert) W(oodworth), 122 Bayard St, New Brunswick, N. J. *Mathematics, Astronomy.* Boston, Mass, Jan. 30, 57. B.S, Rutgers, 78, M.S, 81; fellow, Hopkins, 79–81. Asst, 'Nautical Almanac,' 81–91; *prof. math. and astron, Rutgers, 91–* Prof. physics, Corcoran Sci. Sch, Washington, D. C, 88–91. F.A.A; Math. Soc; Astron. and Astrophys. Soc. Fourier's series.—Practical applications of Fourier's series.

Prescott, Prof. Samuel C(ate), Massachusetts Institute of Technology, Boston, Mass. *Bacteriology, Biology.* South Hampton, N. H, April 5, 72. B.S, Mass. Inst. Tech, 94; Woods Hole, 96; Berlin and Copenhagen, 00. Asst. *biol, Mass. Inst. Tech,* 95–96, instr, 96–03, *asst. prof, 03–* Instr. bacter, Framingham Nor. Sch, 98–03; Simmons; director, Boston Bio-Chem. Lab; collaborator, 'Centralblatt für Bakter.' M.A.A;

Soc. Nat; Soc. Bact. (v. pres.); Chem. Soc; Soc. Chem. Indust. Bacteriology, especially industrial; water bacteriology; enzymes.—General problems of fermentation.

Prescott, Dr. W(illiam) H(erbert), 285 Marlborough St, Boston, Mass. *Medicine.* Concord, Mass, Aug. 30, 60. M.D, Harvard, 88. Asst. supt, Boston City Hosp, 88–90; med. director, Boston Pub. Inst, 96–97. Ass. Path. and Bact.

Pressey, Prof. Henry A(lbert), U. S. Geological Survey, Washington, D. C. *Hydraulic engineering.* Lewiston, Me, Sept. 24, 73. B.S, Columbian, 93; C.E, Mass. Inst. Tech, 96; Ph.D, George Washington, 05. Instr. *civil eng, George Washington, 98, prof, 99–; hydrographer, U. S. Geol. Surv, 98–* Consulting engineer. Civil Eng. Hydrography.—Water powers in United States.

Preston, Dr. Carleton E(stey), 1000 Essex St, Lawrence, Mass. *Botany.* Boston, Mass, Nov. 21, 78. A.B, Harvard, 99, A.M, 00, traveling fellow, 00–01, Ph.D, 02. Asst, Dept. Bot, Harvard, 00, temporary asst, Gray Herbarium, 01; asst, Yale Forest Sch, 01–02; with Manning Bros, landscape architects, Boston, 02–03; *teacher nat. sciences, High Sch, Lawrence, Mass, 03–* Temporary asst. micros. food anal, Conn. Agr. Exp. Sta, 02. Structure of flowering plants, especially desert vegetation.

Preston, E(rasmus) D(arwin), 44 M St, N. W, Washington, D. C. *Geodesy, Terrestrial physics.* Lancaster Co, Pa, March 28, 51. C.E, Cornell, 75; fellow, Hopkins, 77–78; Paris, 78–79; Vienna, 93–94. Instr. civil eng, Cornell, 76; executive officer, U. S. Coast and Geod. Surv, 95–99; ed, 'Publications,' 99–00. With French Transit of Venus Commission, 82; U. S. Solar Eclipse Party, S. Pacific Ocean, 83; astronomer, Nat. Observatory, Cordoba, Argentine Rep, 84; astron. work, Hawaiian Govt, 87; U. S. Sci. Expedition to Africa, 89; Int. Lat. Observations, Honolulu, 91–92. U. S. delegate, Int. Geod. Ass, Stuttgart, 98. Variations of latitude; terrestrial magnetism; force of gravity.

Price, Overon W(estfeldt), Forest Service, Washington, D. C. *Forestry.* Liverpool, England, Jan. 27, 73. Virginia; Munich. Agent, *Bur. Forestry, U. S. Dept. Agr,* 99–00, field asst, 00–01, asst. forester, 01–03, *assoc. forester, 04–* Lecturer field methods, Yale Forest Sch, 04. Forestry Ass; Soc. Foresters; Nat. Geog. Soc. Forest management and measurements.

Price, Dr. T(homas) M(alcolm), U. S. Department of Agriculture, Washington, D. C. *Physiological chemistry.* Darlington, Md, April 11, 78. B.S, Md. Agr. Col, 99; M.S, Columbian, 00, Ph.D, 03. Chemist, Md. Agr. Exp. Sta, 99–02; *physiol. chemist, U. S. Dept. Agr, 02–; instr. chem, George Washington, and biochem, Med. Sch, 02–* M.A.A; Chem. Soc. Digestibility of plain, cooked and pasteurized milk; digestibility of milk treated with preservatives; effects of baking powders and preservatives on digestion; the isolation of animal and bacterial enzymes; vegetable enzymes and their toxic effects.

Prime, Dr. Frederick, 1008 Spruce St, Philadelphia, Pa. *Geology, Mineralogy.* Philadelphia, March 1, 46. A.B, Columbia, 65, A.M, 70. Asst, Sch. of Mines, Columbia, 69–70; *prof.* metal and miner, Lafayette, 70–81; *nat. hist, Girard, 95–* Asst. state geologist, Pa, 74–79. Hon. Ph.D, Lafayette. Philos. Soc; Phila. Acad. Economic geology; mineralogy.

Primrose, Prof. A(lexander), 100 College St, Toronto, Can. *Anatomy, Surgery.* Pictou, N. S, 61. M.B, C.M, Edinburgh, 86; Middlesex Hosp, London, 87; M.R.C.S, 88. *Prof. anat, Toronto, 92–, assoc. prof. clin. surg, 97–* Surgeon to Hosp. for Sick Children, etc. Ass. Anat; London Path. Soc. Myology of the anthropoid ape; anatomy; surgery.—Regional anatomy; anatomy of the epiphyses.

Prince, Prof. Morton, 458 Beacon St, Boston, Mass. *Medicine.* Boston, Dec. 21, 54. A.B, Harvard, 75, M.D, 79. Physician nose and throat, *Boston City Hosp,* 82–85, *neurologist, 85–;* instr. *neur,* Harvard Med. Sch, 95–98; *prof, Med. Sch, Tufts, 02–* District physician, Boston Dispensary, 81–82, neurologist, 81–86. Am. Physicians; Neur. Ass; Boston Soc. Neur. and Psychiat; Boston Soc. Med. Improv; Boston Soc. Med. Sci. General medicine; neurology; psychology.—Disintegrated personality and allied problems in abnormal psychology.

Prindle, Louis M(arcus), U. S. Geological Survey, Washington, D. C. *Geology.* Great Barrington, Mass, Aug. 28, 65. A.B, Williams, 87; Munich, 90–91; Hopkins, 93; Harvard, 00–01. Geol. aid, *U. S. Geol. Surv,* 02–03, *asst. geologist, 04–* Wash. Geol. Soc. Alaskan geology.

Pringle, C(yrus) G(uernsey), University of Vermont, Burlington, Vt. *Botany.* Charlotte, Vt, May 6, 38. Classical educ. *Botanical collector, Harvard, 93–; keeper, Herbarium, Vermont, 02–* Hon. A.M, Middlebury, 76. Assoc. fel. Am. Acad. Botanical exploration of Mexico.

Pritchett, Pres. Henry S(mith), 174 Bay State Road, Boston, Mass. **Astronomy, Geodesy.* Fayette, Mo, April 16, 57. A.B, Pritchett, 75; Ph.D, Munich, 95. Asst. astronomer, U. S. Naval Observatory, 78–80; astronomer, Morrison Observatory, 80–81; prof. astron. and director, Observatory, Washington (St. Louis), 81–97; supt, U. S. Coast and Geod. Surv, 97–00; *pres,* Mass. Inst. Tech, 00–06; *Carnegie Foundation for Pensioning Col. and Univ. Professors, 06–* LL.D, Hamilton, 00; Pennsylvania, Harvard and Yale, 01; Hopkins, 02; Michigan, 05. F.A.A; Astron. and Astrophys. Soc; Am. Acad; Philos. Soc; Wash. Acad; Astron. Gesell. Positions of fixed stars; double star systems; comet orbits; orbits of satellites; stellar parallax.

Proctor, Miss Mary, 70 W. 47th St, New York, N. Y. *Astronomy.* Dublin, Ireland. Grad, Col. of Preceptors, London, England. Teacher, private sch, N. Y. City; lecturer popular astron, N. Y. Board of Educ. and elsewhere.

F.A.A; British Astron. Ass. Making astronomy popular by writings and lectures.

Prosser, Prof. Charles S(mith), Ohio State University, Columbus, O. **Geology, Paleontology.* Columbus, N. Y, March 24, 60. B.S, Cornell, 83, fellow, 84–85, M.S, 86. Instr. paleont, Cornell, 85–88; asst. paleontologist, U. S. Geol. Surv, 88–92; *prof.* nat. hist, Washburn, 92–94; *geol,* Union, 94–99; *Ohio State, 99–* Asst. geologist, U. S. Geol. Surv, 92–95, 00–; N. Y. Geol. Surv, 95–99; Kas. Univ. Surv, 96; chief, Appalachian Div, Md. Geol. Surv, 98–01; asst. geologist, Ohio Geol. Surv, 00–; assoc. ed, 'Am. Geologist,' 04– Mem. Int. Cong. Geol, 88; Int. Geog. Cong, 04. F.A.A; Soc. Nat; Geol. Soc. Stratigraphical geology and paleontology of New York, Pennsylvania, Kansas, Nebraska, Maryland and Ohio; the Devonian of New York, Pennsylvania and Maryland.—Stratigraphical geology and paleontology of Ohio.

Prudden, Dr. T(heophil) Mitchell, 160 W. 59th St, New York, N. Y. **Pathology.* Middlebury, Conn, July 7, 49. A.B, Yale, 72, M.D, 75. Asst. and director, Lab. of Alumni Ass, 78; *prof. path, Col. Physicians and Surgeons, Columbia, 91–* LL.D, Yale, 97. Nat. Acad; Ass. Path. and Bact; Am. Physicians; assoc. fel. Am. Acad; N. Y. Acad. Med; N. Y. Path. Soc; fel. N. Y. Acad. Pathology and bacteriology.

Puckner, Prof. W(illiam) A(ugust), 75 Wells St, Chicago, Ills. *Pharmaceutical chemistry.* New Holstein, Wis, Feb. 24, 64. Ph.G, Illinois, 85; Heidelberg, 93. Asst. bot, *Sch. of Pharmacy, Illinois,* 88–90, *prof. chem, 94–* Chemist, Searle and Hereth Co; asst. ed, 'Pharmaceut. Rev.' Chem. Soc; Pharmaceut. Ass; Chem. Gesell. Alkaloidal estimations; general pharmaceutical chemistry.—Decomposition of mydriatic alkaloids.

Puffer, Dr. Ethel D(ench), 45 Irving St, Cambridge, Mass. *Psychology, Philosophy.* Framingham, Mass, Oct. 10, 72. A.B, Smith, 91; Berlin and Freiburg, 95–97; Ph.D, Radcliffe, 02. Teacher, High Sch, Keene, N. H, 91–92; instr. math, Smith, 92–95; *asst. psychol, Radcliffe, 98–; instr. philos, Wellesley, 01–; psychol, Simmons, 04–* Psychol. Ass; Philos. Ass. Psychological esthetics.

Puffer, Prof. W(illia)m L(ewis), 198 Mt. Vernon St, West Newton, Mass. *Electrical engineering.* Sudbury, Mass, July 15, 60. B.S, Mass. Inst. Tech, 84. Asst. *elec. eng, Mass. Inst. Tech,* 84–86, instr, 86–93, asst. prof, 93–01, *assoc. prof, 01–* Mem. Jury of Awards, Pan-Am. Expos, 01. M.A.A; Elec. Eng. Dynamo testing; general electrical engineering laboratory instruction and methods; safety of electric wires.

Pumpelly, Prof. Raphael, Newport, R. I. **Geology.* Owego, N. Y, Sept. 8, 37. Private schools; Royal Sch. Mines, Freiberg, 56–60. Geologist, Japanese Govt, 60–63; special commissioner, Chinese Govt, 64; prof. mining geol, Harvard, 66–75; chief div, U. S. Geol. Surv, 79–81; director, North. Transcontinental Surv, 81–84; chief div, U. S. Geol. Surv, 84–90; conductor, Archeol. and Physiographic Explor. to Central Asia, Carnegie Inst, 03–04. State geologist, Mich, 70–71; director, Geol. Surv, Mo, 71–73. Int. Geol. Cong. (v. pres, 91). Nat. Acad; Geol. Soc. (pres, 05); Geog. Ass; Am. Acad; Philos. Soc; etc. Geology; physical geography; archeology. —Archeology and physiography of Central Asia.

Pupin, Prof. M(ichael) I(dvorsky), Columbia University, New York, N. Y. **Physics.* Idvor, Hungary, Oct. 4, 58. A.B, Columbia, 83; Ph.D, Berlin, 89. Instr. math. physics, *Columbia,* 90–91, adj. prof. mech, 91–01, *prof. electromech, 01–* Hon. Sc.D, Columbia, 04. Nat. Acad; F.A.A; Physical Soc. (assoc. ed, 'Bul.'); Math. Soc; assoc. mem. Elec. Eng. (v. pres, 97–00); Philos. Soc; fel. N. Y. Acad. Electrical discharges through rarefied gases; electrical resonance; wave propagation over non-uniform conductors.—Energy loss in weak and variable magnetic fields.

Purdue, Prof. A(lbert) H(omer), Fayetteville, Ark. *Geology.* Warrack Co, Ind, March 29, 61. A.B, Stanford, 93; fellow, Chicago, 95–96. Principal, High Sch, Sullivan, Ind, 86–87; supt. schools, West Plains, Mo, 87–88; principal, High Sch, Rensselaer, Ind, 94–95; *prof.* geol, *Arkansas,* 96–03, *geol. and mining, 03–* Asst, Ark. Geol. Surv, 92; field asst, U. S. Geol. Surv, 01, 02, 03, special field asst, 04– M.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Ind. Acad. The stratigraphy and structure of northern Arkansas; hydrology of Arkansas; geology of zinc, coal and natural gas.

Puryear, Prof. Charles, College Station, Tex. *Mathematics.* Boydton, Va, Oct. 21, 60. A.M, Richmond, 81; B.S, C.E, Virginia, 85. Teacher, High Sch, Bellevue, Va, 82–83; McGuire's Sch, Richmond, Va, 85–86; High Sch, Markham, Va, 86–88; instr. math, Michigan, 88–89; assoc. prof. civil eng. and physics, *Tex. Agr. and Mech. Col,* 89–90, *prof. math, 90–* M.A.A; Math. Soc; Eng. Educ; Tex. Acad; Tex. Hist. Ass.

Putnam, Prof. F(rederic) W(ard), 1582 Massachusetts Ave, Cambridge, Mass. **Anthropology.* Salem, Mass, April 16, 39. B.S, Harvard, 62. Curator ornith, Essex Inst, Salem, Mass, 56; asst. in charge fishes, Mus. Comp. Zool, Harvard, 57; director, Peabody Acad. Science, Salem, 67; *curator, Peabody Mus, Harvard, 75–, prof. Am. archeol. and ethnol, 86–;* curator anthrop, Am. Mus. Nat. Hist, N. Y, 94–03; *prof. anthrop. and director, Dept. Anthrop, California, 03–* Mass. state commissioner of inland fisheries, 82–89; chief, Dept. Ethnol, Columbian Expos, 91–94; v. pres, Int. Cong. Americanists, 03; chairman, Dept. Anthrop, Int. Cong. Arts and Science, St. Louis, 04. Cross, Légion d'honneur; Drexel medal, 03; hon. A.M, Williams, 68; Sc.D, Pennsylvania, 94. Nat. Acad; F.A.A; (gen. sec'y, 70, 71, permanent sec'y, 73–98, sec'y, Subsect. Anthrop, 75, pres, 98); Soc. Nat; Anthrop. Ass. (pres, 05–); fel. Ethnol. Soc; Folk-lore Soc. (pres, 91); Antiq. Soc; Am.

Acad; Philos. Soc; Archeol. Inst; Cal. Acad; Mass. Hist. Soc; Wash. Anthrop. Soc; Mass. Hist. Soc; Boston Folk-lore Soc. (pres, 90–); Boston Soc. Nat. Hist. (pres, 87–89); British Ass; Stockholm Royal Acad. Lit, Hist. and Antiq; anthrop. societies of London, Paris, Brussels, Florence, Berlin, etc. Zoology; anthropology.—North American archeology and ethnology; explorations in various parts of America.

Putnam, G(eorge) R(ockwell), U. S. Coast and Geodetic Survey, Washington, D. C. *Geodesy, Hydrography.* Davenport, Ia, May 24, 65. B.S, Rose, 90, M.S, 95. Connected with *U. S. Coast and Geod. Surv,* 90–94, *asst, 94–* Director, Coast Surveys, Philippine Islands. Civil Eng; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc. Cartography; geodesy; hydrography; topography; geography; the variations of the force of gravity.

Putnam, Dr. Herbert, Library of Congress, Washington, D. C. *Bibliography, Library economy.* New York, N. Y, Sept. 20, 61. A.B, Harvard, 83; Law Sch, Columbia; admitted to Minn. bar, 86; Suffolk Co, Mass, 92. Librarian, Minneapolis Athenaeum, 84–87; Minneapolis Pub. Library, 87–91; practising attorney, Boston, 92–95; librarian, Boston Pub. Library, 95–99; *librarian of Congress, 99–* Litt.D. Bowdoin, 98; LL.D, Columbian and Illinois, 03; Wisconsin, 04. Library Ass. (pres, 98); Am. Hist. Ass; Nat. Geog. Soc. Bibliography; library economy.

Putnam, Dr. James J(ackson), 106 Marlborough St, Boston, Mass. **Diseases of nervous system.* Boston, Oct. 3, 46. A.B, Harvard, 66, M.D, 70. Lecturer *neur, Harvard Med. Sch,* 72–93, *prof, 93–* Physician, Dept. Neur, Mass. Gen. Hosp, 74. Ass. Path. and Bact; Am. Physicians; Neur. Ass; Am. Acad; Mass. Med. Soc. Diseases of the nervous system.

Putnam, Dr. T(homas) M(ilton), University of California, Berkeley, Cal. *Mathematics.* Petaluma, Cal, May 22, 75. B.S, California, 97, fellow, 97–98, M.S, 99; fellow, Chicago, 00–01, Ph.D, 01. Asst. *math,* California, 98–99; *instr,* Texas, 99–00; *California, 01–* Math. Soc. Theory of groups; theory of numbers.

Q

Quaintance, Prof. A(ltus) L(acy), U. S. Department of Agriculture, Washington, D. C. *Entomology.* New Sharon, Ia, Dec. 19, 70. B.S, Florida, 93; M.S, Ala. Polytech, 94. Instr. biol, Florida, 94–97, prof. entom, 98; biol. and hort, Ga. Exp. Sta, 99–01; zool. and entom, Md. Agr. Col, and state entomologist, Md, 01–02; *asst. entomologist, Bur. Entom, U. S. Dept. Agr, 03–* F.A.A; Ass. Econ. Entom. (pres, 04); Soc. Prom. Agr. Sci; Nat. Geog. Soc; Wash. Entom. Soc; Wash. Biol. Soc. Economic entomology; Aleurodidae.—Insects destructive to deciduous fruit plants in the United States; Aleurodidae.

Quarles, Dr. Ja(me)s A(ddison), Washington and Lee University, Lexington, Va. *Philosophy, Psychology.* Cooper Co, Mo, April 30, 37. Virginia, 54–56; Princeton Theol. Sem, 57–59; A.B, A.M, Westminster (Mo.), 58. Pastor, Presbyterian Church, 59–73; pres, Elizabeth Aull Female Sem, Lexington, Mo, 70–73, 77–86; *prof. philos, Washington and Lee, 86–* Principal, Kemper Sch, Boonville, Mo, 56–57; High Sch, Glasgow, Mo, 64–65. D.D, Westminster (Mo.); LL.D, Central Univ. of Ky. Psychology; ontology.—Sensations; memory; creative faculty; the intuitions; volition.

Queneau, A(ugustin) L(eon Jean), New Jersey Zinc Co, South Bethlehem, Pa. *Mining, Metallurgy.* Paris, France, April 6, 74. B.S, Sorbonne, Paris, 91; E.M, A.M, Columbia, 01. Tutor metal, Columbia, 01–02; in charge exp. work, *N. J. Zinc Co,* 02–05, *consulting engineer, 05–* Mining engineer, Cripple Creek, 99; U. S. Geol. Surv, Cape Nome, Alaska, 00. Min. Eng; Chem. Soc; Soc. Chem. Indust; l'Indust. miner. de France; Soc. des Ing. civile de France. Pyrometry; general metallurgy.—Treatment of mixed lead; zinc pyritic ores; zinc metallurgy; refractory materials.

Quereau, Dr. Edmund C(hase), Aurora, Ills. *Geology.* Aurora, March 18, 68. Ph.B, Northwestern, 88; Ph.D, Freiburg, 93. Instr. nat. science, Troy Acad, 88–90; paleont, Chicago, 93–95; prof. geol, Syracuse, 95–99; *eng. and railroad work, 99–* Assoc. ed, 'Jour. Geol,' 93–94. Geol. Soc. Paleontology; stratigraphy.

Quimby, Rev. Alden W(alker), Berwyn, Pa. *Astronomy.* Womelsdorf, Pa, May 6, 54. Private and pub. schools. *Minister, Methodist Epis. Church, 96–* Lecturer popular astron; astron. ed, 'Phila. Pub. Ledger,' 94–02; contributor various magazines and journals. Astron. and Astrophys. Soc; hon. mem. Camden Astron. Soc. Sun-spot observations.

Quinn, Dr. John J(ames), 6 South St, Warren, Pa. *Mathematics, Manual training.* Coburg, Can, Sept. 18, 64. Ph.B, Rochester, 97; Mechanics Inst, Rochester, 95, 98. *Instr. math, mech. drawing and manual training,* Mechanics Inst, Rochester, N. Y, 97–99; *High Sch, Warren, 99–* Hon. Ph.D, Volant, 05. F.A.A; Warren (Pa.) Acad. (pres.). Linkages for describing mathematical curves (conic sections, straight line and higher plane curves).—Kinematic geometry; curves for trisecting an angle.

R

Rabinovitch, Dr. I(srael) Euclid, 130 Henry St, New York, N. Y. *Mathematics.* Berdytchev, Russia, June 6, 61. Pennsylvania, 91–93; Harvard, 94–95; Hopkins, 96–00, fellow, 00–01, Ph.D, 01. Instr. math, Morgan Col, Baltimore, 98–99; *private tutor, 99–* Math. Soc. Foundations of Euclidean geometry.—Solvable algebraic equations; the quintic equation; foundations of four-dimensional line geometry; axioms of mechanics.

Rachford, Dr. B(enjamin) K(nox), 323 Broadway, Cincinnati, O. *Medicine.* Alexandria, Ky, Nov. 28, 57. M.D, Cincinnati, 82. *Prof.* physiol, *Cincinnati,* 94–98, mat. med, 98–01, *diseases of children, 01–* Pediatrist, Cincinnati Hosp, 96–; Good Samaritan Hosp, 01. Am. Physicians; Pediat. Soc. Influence of bile on fat splitting properties of pancreatic juice; comparative anatomy of bile and pancreatic ducts; lithemia; lithemia and tuberculosis in childhood; neuroses of childhood.

Raddin, Charles S, 2032 Orrington Ave, Evanston, Ills. *Botany, Mineralogy.* Lynn, Mass, Jan. 29, 63. B.S, Northwestern, 84, M.S, 88. Chicago Acad. (v. pres.); Chicago Nat. Hist. Surv. (sec'y); Evanston Hist. Soc. (director). Flora of Chicago and vicinity.

Ramaley, Prof. Francis, 846 Pine St, Boulder, Colo. *Botany.* St. Paul, Minn, Nov. 16, 70. B.S, Minnesota, 95, M.S, 96, Ph.D, 99. Instr. bot, Minnesota, 96–98; *prof. biol, Colorado, 99–* Acting pres, Colorado, June to Nov, 02, ed, 'Univ. of Colo. Studies.' F.A.A; Soc. Nat; Nat. Geog. Soc; Bot. Cent. States. Plant anatomy; anatomy of seedlings; morphology of certain brown seaweeds.—Cotyledon anatomy of tropical plants; cotyledon anatomy of Ranunculaceae and Rosaceae; plant geography of the Rocky Mountains.

Ramsey, Prof. Rolla R(oy), Indiana University, Bloomington, Ind. *Physics.* Morning Sun, O, April 11, 72. Miami, 91–92; A.B, Indiana, 95, A.M, 98; Clark, 98–99; Ph.D, Cornell, 01. Teacher science, High Sch, Decatur, Ind, 95–96; lab. asst. *physics,* Indiana, 96–97; prof, Westminster (Pa.), 97–98; asst, Cornell, 99; instr, Indiana, 99–00; Missouri, 01–03; *asst. prof, Indiana, 03–* M.A.A; Physical Soc; Ind. Acad. Photographic study of electrolytic cells; effect of gravity and pressure on electrolytic action; relation of volume change and quantity of electricity in Clark and cadmium cells.—Polarization of Clark and cadmium cells.

Rand, Dr. Benjamin, Cambridge, Mass. *Philosophy.* Canning, N. S, July 17, 56. A.B, Acadia, 75, A.M, 79; A.B, Harvard, 79, A.M, 80, Walker fellow, 82–85 (Heidelberg, 82–84), Ph.D, 85. Instr. English, Mass. Inst. of Tech, 89–90; asst. philos, Harvard, 92–97, instr, 97–02. Mem. Int. Geol. Conf, London, 95. Am. Hist. Ass; Folk-lore Soc. Economic history; bibliography of philosophy.

Rand, Dr. Herbert W(ilbur), 8 Avon Place, Cambridge, Mass. *Zoology.* Oil City, Pa, July 2, 72. A.B, Allegheny, 92; A.B, Harvard, 97, A.M, 98, Ph.D, 00. Asst. principal, High Sch, Oil City, 94–96; *instr. zool, Harvard, 00–* F.A.A. Experimental morphology; regeneration.—Histogenesis of regeneration in the earthworm.

Randall, Dr. H(arrison) M(cAllister), 1220 Prospect St, Ann Arbor, Mich. *Physics.* Burr Oak, Mich, Dec. 17, 70. Ph.B, Michigan, 93, Ph.M, 94, Ph.D, 02. Teacher physics and chem, High Sch, West Bay City, Mich, 94–95; Saginaw, 95–99; instr. *physics,* Mich. State Nor. Sch, Ypsilanti, 99–00; asst, *Michigan,* 00–01, *instr, 01–* Coefficient of expansion of quartz and nickel to 500° C. by Appè-Fizean dilatometer.—Coefficients of expansion of other substances by the same method.

Randall, Prof. O(tis) E, Brown University, Providence, R. I. *Mechanical engineering.* North Stonington, Conn, Feb. 28, 60. A.B, Brown, 84, A.M, 87, Ph.D, 96; Charlottenburg, 99–00. Instr. math, High Sch, Providence, 84–85; *math. and eng, Brown,* 85–90, asst. prof, 90–94, *prof, 94–* Strength of long columns; shades and shadows and perspective.

Randolph, Dr. Harriet, Low Buildings, Bryn Mawr, Pa. *Biology, Botany.* Philadelphia, Pa, Oct. 27, 56. A.B, Bryn Mawr, 89; Ph.D, Zürich, 92. *Demonstrator biol, Bryn Mawr, 92–, reader in bot, 93–* Soc. Zool. Vermes.—Annelids; Protozoa.

Rane, Prof. F(rank) W(illia)m, Durham, N. H. *Agriculture, Horticulture, Forestry.* Whitmore Lake, Mich, Dec. 11, 68. B.Agr, Ohio State, 91; M.S, Cornell, 92. Horticulturist and mycologist, W. Va. Agr. Exp. Sta, 92–93; prof. agr. and hort, and horticulturist to Exp. Sta, West Virginia, 93–95; *N. H. Col. Agr. and Mech. Arts* and Exp. Sta, 95–98, *prof.* hort, 98–01, *hort. and forestry, 01–* F.A.A; Soc. Prom. Agr. Sci; Soc. Hort. Sci; Forestry Ass; Ass. Econ. Entom; Pomol. Soc. Economic plant growth; effect of artificial lighting on vegetation; plant depredations and plant culture.—The muskmelon; utilizing waste lands by forest growth; economic plant growth for New England in agriculture, horticulture and forestry.

Rankin, Prof. Walter M(ead), Princeton, N. J. **Biology.* Newark, N. J, Dec. 1, 57. A.B, Williams, 79; M.S, Princeton, 84; Ph.D, Munich, 89. Instr. biol, *Princeton,* 89–95, asst. prof, 95–01, *prof.* invert. zool, 01–04, *biol, 04–* Instr, Woods Hole, 90–95. F.A.A; Soc. Nat; Soc. Zool. Morphology of mollusks; Crustacea.

Ransom, Dr. Ja(me)s H(arvey), 119 Columbia St, West Lafayette, Ind. *Chemistry.* Chazy, N. Y, Sept. 21, 61. B.S, Wabash, 90, A.M, 93; Ph.D, Chicago, 99. Asst. *chem,* Wabash, 90–93; prof, Chicago Manual Training Sch, 93–97; lecture asst, Chicago, 97–00; instr, *Purdue,* 00–02, *assoc. prof, 02–* Prof. chem, Chautauqua, 01, 02. Chem. Soc; Eng. Educ; Ind. Acad; Ind. Sci. Ass. Molecular rearrangements of o-aminophenol carbonate; isomeric hydrazones of benzoin; chemical action of electric waves.—Molecular rearrangements; catalytic actions.

Ransome, Dr. F(rederick) L(eslie), U. S. Geological Survey, Washington, D. C. **Geology.* Greenwich, England, Dec. 2, 68. B.S, California, 93, fellow, 93–95, Ph.D, 96. Asst. miner. and petrog, Harvard, 96–97; asst. geologist, *U. S. Geol. Surv,* 97–00, *geologist, 00–* Special lecturer ore deposits, Chicago, 05; assoc. ed, 'Econ. Geol.' F.A.A; Geol. Soc; Min. Eng;

Nat. Geog. Soc; Wash. Acad; Wash. Geol. Soc. Mineralogy; petrography; economic geology.—Economic geology in connection with gold, silver, lead and copper deposits in western United States.

Ranum, Arthur, 220 Bruen St, Madison, Wis. *Mathematics.* La Crosse, Wis, Dec. 13, 70. A.B, Minnesota, 92; Cornell, 93–95, fellow, 95–96; fellow, Chicago, 96–97. Prof. math. and astron, Washington (Seattle), 97–04; *instr. math, Wisconsin, 04–* Math. Soc. N-dimensional geometry.

Rathbun, Miss Mary J(ane), Hammond Court, 30th St, Washington, D. C. *Carcinology.* Buffalo, N. Y, June 11, 60. Buffalo High Sch, 74–78. Clerk, U. S. Fish Commission, 84–87; copyist, later aid and *second asst. curator, Div. Marine Invert, U. S. Nat. Mus, 87–* M.A.A; Soc. Nat; Soc. Zool; Wash. Acad; Wash. Biol. Soc. Classification of Crustacea; fresh-water crabs; some Japanese stalk-eyed Crustacea; decapods of northwest coast.

Rathbun, Dr. Richard, Smithsonian Institution, Washington, D. C. **Marine invertebrates, Fisheries, Museum administration.* Buffalo, N. Y, Jan. 25, 52. Cornell, 71–73. Asst. zool, Boston Soc. Nat. Hist, 74, 75; scientific asst, U. S. Fish Commission, 74, 75; asst. geologist, Imp. Geol. Commission of Brazil, 75–78; asst. zool, Yale, 79–80; scientific asst, U. S. Fish Commission, 78–96; *asst. sec'y, Smithsonian Inst, 97–, in charge, U. S. Nat. Mus, 99–* U. S. representative on the Joint Commission with Great Britain relative to the preservation of the fisheries in waters contiguous to the U. S. and Can, 92–96. Hon. M.S, Indiana; Sc.D, Bowdoin. F.A.A; Soc. Nat; Fisheries Soc; Wash. Acad; Wash. Biol. Soc; Wash. Philos. Soc. (pres, 02); cor. mem. Boston Soc. Nat. Hist; Fisheries Soc. of Finland. Devonian and Cretaceous fossils of Brazil; marine invertebrates and fisheries of the United States.

Rau, Supt. A(lbert) G(eorge), 63 Broad St, Bethlehem, Pa. *Physics.* Bethlehem, Aug. 7, 68. B.S, Lehigh, 88, M.S, 02. Asst. science, *Moravian Parochial Sch,* 88–90, head master, 90–92, *supt, 92–* Reader physics for Col. Entrance Board, 01. M.A.A. Limits of audible sound; elasticity of gases.—Ultrared light measurement.

Ravenel, Dr. Mazyck P(orcher), Philadelphia, Pa. **Medicine, Bacteriology, Pathology.* Pendelton, S. C. Univ. of South; Med. Col. of S. C; Pennsylvania, 92, Scott fellow, 93; Pasteur Inst, Paris, and Inst. Hygiene, Halle, 96. Asst. demonstrator anat, Med. Col. of S. C; lecturer diseases of children, Charleston Med. Sch; asst. bacter, Pennsylvania, 95; director, Lab. Hygiene, Princeton, 96; *bacteriologist, State Live Stock Sanit. Board, Pa, 97–;* lecturer bacter, Vet. Dept, Pennsylvania, 98–03; *asst. med. director and chief of Lab, Henry Phipps Inst, 03–* Ass. Path. and Bact; Am. Med. Ass; Pub. Health Ass; Philos. Soc; Phila. Path. Soc. (v. pres.); Phila. Col. Physicians. Tuberculosis; rabies; bacteria of soil; comparative bacteriology and pathology.—Relation between human and bovine tuberculosis; comparative bacteriology and pathology; immunity.

Ravenel, W(illiam) de C(hastignier), 1611 Riggs St, N. W, Washington, D. C. *Fish culture.* Pineville, S. C, Aug. 25, 59. Union, 78. Supt. of Sta, U. S. Fish Commission, 84–94, asst. in charge, Div. Fish Culture, 94–02; *administrative asst, U. S. Nat. Mus, 02–* Representative, U. S. Fish Commission, various expositions. Fisheries Soc; Nat. Geog. Soc; Fish culture; construction of aquarium; preparation of exhibits.

Raymond, Pres. B(radford) P(aul), Middletown, Conn. *Philosophy.* Stamford, Conn, April 22, 46. Lawrence, 69–70; B.D, Boston, 73, Ph.D, 81. Pastor, M. E. Church, 73–83; *pres,* Lawrence, 83–89; *Wesleyan, 89–* LL.D, Lawrence, 89; D.D, Yale, 01. Philos. Ass.

Raymond, Dr. Rossiter W(orthington), 123 Henry St, Brooklyn, N. Y. *Geology, Mining, Metallurgy.* Cincinnati, O, April 27, 40. Brooklyn Polytech, 58; Heidelberg; Munich; Freiberg, 61. U. S. mining commissioner, 68–76; lecturer econ. geol, Lafayette, 70–82; N. Y. state elec. subway commissioner for Brooklyn, 85–89. Ed, 'Am. Jour. Mining and Eng.' and 'Mining Jour,' 66–93; U. S. commissioner, Vienna Expos, 73; lecturer mining law, Columbia, 03. Hon. Ph.D, Lafayette, 69. F.A.A; Min. Eng. (pres, 72–74, sec'y, 84–); Philos. Soc; hon. mem. Gt. Britain Iron and Steel Inst; hon. mem. Soc. Ing. civile de France. Mineral resources of the United States; mining law.

Raymond, Prof. William G(alt), Iowa City, Ia. *Civil engineering.* Princeton, Ia, March 2, 59. Kansas, 77–80; C.E, Washington (St. Louis), 84. Instr. civil eng, California, 84–90; *prof.* geol, road eng. and topog. drawing, Rensselaer, 92–04; *civil eng. and dean, Col. of Applied Science, Iowa, 04–* Locating engineer on various railroads; consulting engineer for pub. works and water works, Troy, N. Y. LL.D, Washington (St. Louis), 05. F.A.A; Civil Eng; Eng. Educ; New Eng. Water Works Ass; N. Y. Railroad Club. Railroad engineering, particularly the cost of operation; effect of gradients, curves, etc; adaptation of motive power.

Raymond, Prof. William J(ames), 665 16th St, Oakland, Cal. *Physics.* Utica, N. Y, July 27, 65. B.S, California, 87; Hopkins, 92–93. Asst. mech, *California,* 87–89, *physics,* 87–91, instr, 91–92, 93–96, *asst. prof, 96–* Physical Soc.

Rea, Prof. Paul M(arshall), College of Charleston, Charleston, S. C. *Zoology.* Cotuit, Mass, Feb. 13, 78. Woods Hole, 98, 99; A.B, Williams, 99; Columbia, 99–00; A.M, Williams, 01; Columbia, 02–03. Asst. *biol,* Williams, 00–02; *prof. and director, Mus, Col. of Charleston, 03–* Field asst, Bur. Forestry, U. S. Dept. Agr, 02, 03. M.A.A. Anatomy and physiology of

Oligochaeta.—Relation of desert animals to water; circulation of blood in earthworms.

Read, Prof. Melbourne S(tuart), Hamilton, N. Y. *Philosophy.* Berwick, N. S, Sept. 27, 69. A.B, Acadia, 91; fellow, Cornell, 94–95, Ph.D, 95. Assoc. prof. *philos, Colgate, 95–96, prof, 96–* Philos. Ass; Psychol. Ass. The relation of cosmic evolution and morals.

Read, M(otte) Alston, Care Baker, Botts, Parker and Garwood, Houston, Tex. *Paleontology, Physiography.* Augusta, Ga, June 20, 72. B.S, Harvard, 93; Munich, 97–99, 00–01. Instr. geol, Harvard, 01–03; physiog, Mass. Inst. Tech, and Radcliffe, 02–03. Field asst. surface geol, U. S. Geol. Surv, 90–92. Boston Soc. Nat. Hist. Gastropods of the volcanic tuff of Seisser Alp, Tyrol, Triassic.—Paleontology of the Amphibia and Reptilia; geographical distribution of life and lands, past and present.

Reaves, Prof. S(amuel) W(atson), Norman, Okla. *Mathematics.* Marion, S. C, July 27, 75. B.S, North Carolina, 99; A.B, Cornell, 00. Instr. *math,* Mich. Mil. Acad, 01; asst. prof, Clemson, 01–05; *prof, Oklahoma, 05–* Math. Soc.

Rebec, Prof. George, 1003 Packard St, Ann Arbor, Mich. *Philosophy.* Tuscola, Mich, March 11, 68. Ph.B, Michigan, 91; Strasburg, 93–94; Ph.D, Michigan, 97. Teacher, High Sch, Saginaw (East Side), 85–86, principal pub. sch, 86–87; instr. English, *Michigan,* 91–93, *philos,* 94–00, asst. prof, 00–04, *junior prof, 04–* Ad interim mem. staff, Dept. Pedag, Michigan, summer, 98–99, 00–01, 05; lecturer psychol. and pedag, Dept. Pub. Instruction, Hawaii, summer, 03. West. Philos. Ass; Psychol. Ass. (North Central Branch). Esthetics; philosophy of discourse.—Esthetics; history of American ideas.

Reed, C(harles) J(ohn), 3313 N. 16th Street, Philadelphia, Pa. *Electrochemistry.* Jasper Co, Ia, June 29, 58. A.B, Michigan, 81. Prof. physics and chem, High Sch, Princeton, Ills, 81–83; Burlington, Ia, 83–86; *consulting engineer, 86–* F.A.A; Chem. Soc; Electrochem. Soc. (sec'y, 02); Elec. Eng. Electrochemical reactions.

Reed, Howard S(prague), University of Missouri, Columbia, Mo. *Botany.* North East, Pa, Aug, 6, 76. Grove City, 98; Woods Hole, 02; A.B, Michigan, 03. Asst. plant physiol, Michigan, 99–03; *instr. bot, Missouri, 03–* Asst, Woods Hole, 02. M.A.A; Micros. Soc; Mich. Acad; St. Louis Acad. Chemical physiology of plants; ecology of plants; morphology of cryptogams.

Reed, Dr. H(ugh) D(aniel), 804 E. Seneca St, Ithaca, N. Y. *Zoology, Comparative anatomy.* Hartsville, N. Y, March 4, 75. B.S, Cornell, 99, fellow, 99–00, Ph.D, 03. Asst. *vert. zool, Cornell,* 00–02, *instr, 02–* M.A.A; assoc. Ornith. Union. Poison glands of Noturus and Schilbeodes; the osteology and relationship of the Percopsidae.—The lateral line canals and cranial nerves of Catostomidae; Percopsidae; fauna of Cayuga Lake Basin; the urinogenital organs of Necturus.

Reed, Prof. John O(ren), 907 Lincoln Ave, Ann Arbor, Mich. **Experimental physics.* New Castle, Ind, Dec. 31, 56. Ph.B, Michigan, 85; Harvard, 91–92; Ph.M, Michigan, 93; Ph.D, Jena, 97. Principal, High Sch, East Saginaw, Mich, 85–91; instr. *physics, Michigan,* 92–94, asst. prof, 94–99, *junior prof, 99–* F.A.A. (sec'y, B, 01); Physical Soc. Effects of temperature on refraction and dispersion in some glasses and crystals; methods for rating tuning-forks; effects of temperature on molecular friction in steel and bronze.—A differential biprism; vibration of air in an open organ pipe; acoustical apparatus.

Reed, Miss Margaret A, Columbia University, New York, N. Y. *Biology.* Kittaning, Pa, Nov. 9, 81. Woods Hole, 00; A.B, Woman's Col. of Baltimore, 01; Bryn Mawr, 01–03. Biol. chart artist, Bryn Mawr, 01–03; *preparator in zool, Columbia, and asst, Barnard, 03–* Lecturer physiol, N. Y. Med. Col, 04–05. Regeneration of the first leg of crayfish; regeneration of a whole foot from the cut end of a lower leg containing only the tibia; delamination in frog's egg.—Anatomy; regeneration.

Reed, Dr. Raymond C(linton), 120 W. Hudson St, Elmira, N. Y. *Bacteriology, Pathology.* Slaterville Springs, N. Y, Jan. 2, 68. Ph.B, Cornell, 96, D.V.M, 01. Asst. comp. path. and bacter, Cornell, 96–97, instr, 97–02; *practising vet. med. and surg, 02–; city bacteriologist, 03–* Soc. Bact; Micros. Soc; N. Y. State Vet. Med. Soc; N. Y. State Sci. Teachers Ass. Bacteriology.—Significance of streptococci in cow's milk.

Reed, Prof. W(illiam) M(axwell), The Observatory, Princeton, N. J. *Astronomy.* Bath, Me, Jan. 12, 71. Harvard, 89–92. Asst. astron, Harvard Col. Observatory, 90–01; *asst. prof. astron, Princeton, 01–* Instr. physics, Phillips Acad, Andover, Mass, 95. Photometry and the 'Gegenschein.'—Light curves of variable stars; variation in the light of the asteroids; the path and shape of the 'Gegenschein.'

Rees, Prof. John K(rom), 1 W. 72nd St, New York. N. Y. **Astronomy, Geodesy.* New York, Oct. 27, 51. A.B, Columbia, 72, fellow, 72–75, A.M, E.M, 75, Ph.D, 95. Asst. math, Columbia, 73–76; prof. math. and astron, Washington (St. Louis), 76–81; instr, later adj. prof. and *prof. geod. and astron. and director, Observatory, Columbia, 81–* Chairman, Board of Editors, 'Sch. of Mines Quarterly,' 83–90; mem. Jury of Awards, Dept. of Instruments of Precision, Paris Expos, 00; Pan-Am. Expos, 01. Chevalier Légion d'honneur, 02. F.A.A. (sec'y, A, 79, gen. sec'y, 80); Astron. and Astrophys. Soc; Math. Soc. (v. pres, 90–91); Physical Soc; Metrol. Soc. (sec'y, 82–96, v. pres, 96–); fel. N. Y. Acad. (pres, 94–96); fel. Royal Astron. Soc; Astron. Gesell. Astronomical photography; observations on variation of latitude and the constant of aberration.—Measurement of plates of minor planet Eros.

Reese, Dr. Albert M(oore), Syracuse University, Syracuse, N. Y. *Histology, Embryology.* Lake

Roland, Md, April 1, 72. A.B, Hopkins, 92, Ph.D, 00. Teacher science, high schools; lecturer, Homeop. Med. Col, Baltimore, 93–98; prof. biol, Allegheny, 01–02; instr, *Syracuse*, 02–03, *assoc. prof. histol, 03–* Lecturer histol. and embryol, Pa. Col, 97. M.A.A; Soc. Nat; Ass. Anat; Soc. Zool. Thyroid gland of Petromyzon; nasal passages of the alligator; animal habits.—Anatomy and histology of the American giant salamander (Cryptobranchus alleghenisensis).

Reese, Dr. Cha(rle)s L(ee), 1020 Jackson St, Wilmington, Del. **Chemistry.* Baltimore, Md, Nov. 4, 62. Hopkins, 80–81; Virginia, 81–84; Ph.D, Heidelberg, 86; Göttingen, 86. Instr. chem, Hopkins, 86–88; prof, Wake Forest, 88; chem. and physics, South Carolina Mil. Acad, 88–96; instr. chem, Hopkins, 96–00; *chief chemist*, N. J. Zinc Co, 01–02; *Eastern Dynamite Co. and director, Eastern Lab, 02–* F.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Gesell; Chem. Verein. Origin of South Carolina phosphate rock; catalytic process of manufacture of sulphuric acid and other chemical problems.—Questions in connection with the manufacture of explosives.

Reese, Dr. Herbert M(eredith), Columbia, Mo. *Physics.* Baltimore, Md, Dec. 1, 73. A.B, Hopkins, 97, Ph.D, 00; fellow, Lick Observatory, 00–01. Asst. spectros, Lick Observatory, 01–03; Yerkes Observatory, 03–04; *instr. physics, Missouri, 04–* M.A.A; Astron. and Astrophys. Soc; Physical Soc. The Zeeman effect; astronomical spectroscopy; investigations of stellar spectra; orbit of spectroscopic binary.

Reese, Jacob, Darby, Pa. *Metallurgy.* Llanelley, Wales, July 14, 25. Self-educated. Laborer, stockholder, engineer-in-chief, gen. manager and owner, various iron works, 35–89. F.A.A; Franklin Inst; Phila. Acad. Inventor of the basic Bessemer and the basic open hearth process for making steel; discovered that basic slag from basic Bessemer process when properly ground is a good fertilizer.—New systems of language for deaf mutes.

Reese, Dr. Stanley C(hester), 216 N. Lang Ave, E. E, Pittsburg, Pa. *Mathematics.* Pittsburg, Pa, May 4, 74. A.B, Princeton, 96, fellow, 96–98, A.M, 97, Ph.D, 99. Prof. math, Acad, Princeton, 98–99; research asst, Yerkes Observatory, 99–01; asst, Eng. Dept, Carnegie Steel Co, 01–02; *mech. engineer, Riter Conley Mfg. Co, 02–* Astron. and Astrophys. Soc. Orbits of minor planets; optical questions arising in design of reflecting telescopes.—Mathematical theory of spectrum analysis; new forms of fitting shop machinery.

Reeve, Prof. Sidney A(rmor), 352 Salisbury St, Worcester, Mass. *Mechanical engineering.* Dayton, O, March 27, 66. Ph.B, Yale, 85, M.E, 87. Instr, Sheffield Sci. Sch, Yale, 85; with Westinghouse, Church, Kerr and Co, 87–94; asst. ed, 'Progressive Age,' 95; adj. prof. *steam and hydraul. eng, Worcester*, 96–98, *prof, 98–* Mech. Eng. The Joule cycle for the production of power from continuous combustion under constant pressure; the physical nature of entropy; graphical thermodynamics.—Id; dynamics of society viewed as a device for the transformation of energy.

Rehn, James A(bram) G(arfield), 1918 N. 21st St, Philadelphia, Pa. *Mammology, Orthopterology.* Philadelphia, Oct. 26, 81. Pa. Acad. Fine Arts. *Asst. curator, Acad. Nat. Sciences, Phila, 03–* Assoc. Ornith. Union. Systematic revisions of the leaf-nosed bats and faunistic and systematic studies in the Orthoptera at large.—Bats of the genera Chilonycteris, Mormoops, Dermonotus, Macrotis and Centurio.

Reichert, Prof. Edward (Tyson), Department of Medicine, University of Pennsylvania, Philadelphia, Pa. **Physiology.* Philadelphia, Feb. 5, 55. M.D, Pennsylvania, 79; Leipzig and Geneva, 82–85. *Prof. physiol, Pennsylvania, 86–* Soc. Nat; Physiol. Soc; Phila. Col. Physicians; etc. Physiology.

Reid, Prof. Harry F(ielding), 608 Cathedral St, Baltimore, Md. **Geophysics.* Baltimore, May 18, 59. C.E, Pa. Mil. Acad, 76; A.B, Hopkins, 80, Ph.D, 85. Prof. math, Case, 86–89, physics, 89–94; lecturer, *Hopkins*, 94–96, assoc. *prof. geol. physics*, 96–01, *prof, 01–* Assoc. prof. physical geol, Chicago, 95–96; chief, Highway Div, Md. Geol. Surv, 98–05; special expert in charge of earthquake records, U. S. Geol. Surv, 02– Mem. Commission Int. des Glaciers, 94– F.A.A; Physical Soc; Geol. Soc; Geog. Ass; Wash. Acad; Phila. Acad; hon. mem. Soc. Helvétique des Sci. nat. Glaciers.—Glaciers; earthquakes.

Reid, Dr. L(egh) W(ilber), Haverford College, Haverford, Pa. *Mathematics.* Alexandria, Va. B.S, Va. Mil. Inst, 87; A.B, Hopkins, 89; M.S, Princeton, 96; Ph.D, Göttingen, 99. Instr. *math*, Princeton, 93–97, 99–00; *Haverford*, 00–01, *assoc. prof, 01–* Math. Soc. Class numbers of cubic algebraic number realms.

Reid, Hon. Whitelaw, 451 Madison Ave, New York, N. Y. *Political science.* Xenia, O, Oct. 27, 37. A.B, Miami, 56, A.M, 60; A.M, Univ. of N. Y, 71; A.M, Dartmouth, 73. Ed, 'Xenia News,' 58–60; on staff, 'Cincinnati Gazette,' 61–68; *ed, 'N. Y. Tribune,' 68–; Am. Ambassador to Gt. Britain, 05–* Clerk, Mil. Committee, House of Representatives, 62, librarian, 63–66; mem. Board of Regents, Univ. of N. Y, 78–, v. chancellor, 02, chancellor, 04; U. S. Minister to France, 89–92; republican nominee for v. pres, 92; special ambassador of U. S. to Queen's Jubilee, 97; mem. U. S. Commissioner in Paris for Peace with Spain, 98; special ambassador of U. S. to coronation of King Edward VII, 02. LL.D, Miami, 69; Princeton, 99; Yale, 02; Cambridge, England, 02. F.A.A.

Reighard, Prof. Jacob (Ellsworth), 1502 Israel Hall Ave, Ann Arbor, Mich. **Zoology.* La Porte, Ind, July 2, 61. Ph.B, Michigan, 82; private student with Dr. E. L. Mark, Cambridge, 83–85; Michigan, 85–86. Teacher science, High Sch,

La Porte, Ind, 82–83; instr. zool, *Michigan*, 86–87, 88–89, acting asst. prof, 87–88, asst. prof, 89–91, *prof.* animal morph, 91–95, *zool*, 95– In charge sci. work, Mich. Fish Commission, 90–95; Biol. Surv. of Great Lakes, U. S. Fish Commission, 98– F.A.A; Soc. Nat; Soc. Zool. (v. pres, Eastern Branch, pres, Central Branch, 93); Mich. Acad. (pres. 00). Fresh water plankton; embryology of teleosts; breeding habits of fishes.—Breeding habits of Petromyzon, Catostomidae, Cyprinidae, Centrarchidae.

Reisinger, Dr. E(mory) W(illiam), 1209 13th St, N. W, Washington, D. C. *Anatomy, Medicine.* Washington, Sept. 16, 71. M.D, Georgetown, 93. *Demonstrator anat, Georgetown, 94–, lecturer osteol, 98–* Ass. Anat; Am. Med. Ass; Wash. Acad; D. C. Med. Ass; D. C. Med. Soc. Dermatitis due to quinin; aneurism of abdominal aorta; exfoliative dermatitis of neurotic origin.

Remington, Prof. Joseph P(rice), 1832 Pine St, Philadelphia, Pa. *Pharmacy, Chemistry.* Philadelphia, March 26, 47. Ph.G, Phila. Col. Pharmacy, 68, Ph.M. *Prof. theory and practise of pharmacy, Phila. Col. Pharmacy, 74–, director, Pharmaceut. Lab, 77–, dean, 93–* Pharmaceut. ed, 'U. S. Dispensatory,' 77–; chairman, Revision Committee, U. S. Pharmacopœia, 80–01, pres, 01–; trustee, Phila. Col. Pharmacy. Hon. Pharm. D, Northwestern. Pres, Seventh Int. Cong. of Pharmacy, 93; delegate from U. S. to Pan-Am. Med. Cong, Washington, 93; Mexico, 96; Eighth Int. Cong, Belgium, 96. Pharmaceut. Ass. (chairman, Council, 80, sec'y, 93); Chem. Soc; Philos. Soc; Pa. Pharmaceut. Ass. (pres, 96); fel. London Chem. Soc; fel. Royal Micros. Soc; fel. London Linnean Soc; hon. mem. Gt. Britain Pharmaceut. Soc; hon. mem. scientific societies of Mexico, St. Petersburg, Brussels, Antwerp, etc. Pharmacy; chemistry.

Remsen, Pres. Ira, Johns Hopkins University, Baltimore, Md. **Chemistry, Education.* New York, N. Y, Feb. 10, 46. A.B, Col. City of N. Y, 65; M.D, Columbia, 67; Ph.D, Göttingen, 70. Asst. *chem*, Tübingen, 70–72; *prof*, Williams, 72–76; *Hopkins, 76–, pres, 01–* LL.D, Columbia, 93; Princeton, 96; Yale, 01; Toronto, 02. Nat. Acad. (v. pres, 03–); F.A.A. (v. pres, 79, pres, 03); Chem. Soc. (pres.); Am. Acad; Philos. Soc; cor. mem. British Ass; for. mem. London Chem. Soc; hon. mem. Gt. Britain Pharmaceut. Soc. Oxidation of aromatic substitution products; double halides; decomposition of diazo-compounds; a new type of isomerism as exhibited in the chlorids of orthosulphobenzoic acid.—A new type of isomerism as exhibited in the chlorids of orthosulphobenzoic acid.

Renouf, Prof. Edward, 416 W. Hoffman St, Baltimore, Md. **Chemistry.* Lowville, N. Y, Sept, 4, 48. Heidelberg, 64; Jena, 65–66; Munich, 67–68, 77–80; Ph.D, Freiburg, 80. Asst. *chem*, Munich, 80–85; *Hopkins*, 85–86, assoc, 86–88, assoc. prof, 88–90, *collegiate prof, 90–*

Rettger, Dr. L(eo) F(rederick), 370 Edgewood Ave, New Haven, Conn. *Bacteriology, Physiological chemistry.* Huntingburg, Ind, March 17, 74. A.B, Indiana, 96, A.M, 97; research scholar, Rockefeller Inst. for Med. Research, 01–; Ph.D, Yale, 02; Strasburg, 03. *Instr. in charge bacter. and hygiene, Sheffield Sci. Sch, Yale, 02–* Soc. Bact. Pancreatic digestion and spleen; decomposition of milk on heating; septicaemia in young chickens; chemical products of bacteria; putrefactive mucin; pathogenic yeast.—Ferment action of bacteria on other bacteria and ferments; bacterial autolysis.

Rettger, Prof. L(ouis) J(ohn), 31 Gilbert Ave, Terre Haute, Ind. *Physiology.* Huntingburg, Ind, Oct. 19, 67. A.B, Hopkins, 88; A.M, Indiana, 90. *Prof. physiol, Ind. State Nor. Sch, 91–* Fel. Ind. Acad. Physiology; zoology.—A biological survey of Vigo County, Ind.

Reuter, Dr. Ludwig H(einrich), Box 31, Philadelphia, Pa. *Chemistry.* Nuremberg, Germany, July 30, 62. Lausanne, 83–84; Kiel, 85–86; A.C, P.C, Erlangen, 87; Heidelberg, 89–92; Ph.D, Bern, 92. Asst. physiol. chem, Lausanne, 84; Heidelberg, 89–92; expert chemist, Manheim, Darmstadt and N. Y. City, 92–00; in charge of Exp. Sta. for cultivation of medicinal plants, Nicaragua, 00–03; *Scientific Research Lab. of Org. and Agr. Chem, Phila, 04–* Scientific awards, Sophia, Bulgaria, 95; Paris, 00. F.A.A; Nat. Geog. Soc; N. Y. Acad; Berlin Soc. Mech. Eng. Physiological chemistry; manufacturing of fine chemicals; technical chemistry and calculations; methods for the manufacture of turpentine derivatives; synthetic alkaloids, cumarin, etc; dairy by-products; technical use of casein; albumen from milk, eggs and blood.

Revell, Dr. Daniel G(raisberry), 5430 Lexington Ave, Chicago, Ills. *Anatomy.* Ingersoll, Ont, Aug. 15, 69. A.B, Toronto, 94, M.B, 00. Master science, High Sch, Tilsonburg, Ont, 89–91; Paris, Ont, 94–97; *instr. anat, Chicago, 00–* Soc. Nat; Ass. Anat. The pancreatic ducts in the dog.—Tunica mucosa gastrica.

Reynolds, Dr. Edwin, 446 Ivanhoe Place, Milwaukee, Wis. *Engineering.* Mansfield, Conn, March 23, 31. Pub. sch. Gen. supt, Stedman and Co, Aurora, Ind, 57–61; Corliss Steam Engine Co, Providence, R. I, 67–77; *chief engineer and director, Edward P. Allis Co, and Allis-Chalmers Co, Milwaukee and Chicago, 77–* Pres, German Am. Bank; Milwaukee Boiler Co; Northwestern Casualty Co; v. pres, Central Improvement Co, Milwaukee. LL.D, Wisconsin. Mech. Eng. (pres, 01–02). Invented the Reynolds-Corliss engine, etc.

Reynolds, Chevalier Elmer R(obert), 813 E. Capitol St, Washington, D. C. *Archeology.* Dansville, N. Y, July, 30, 46. Columbian, 74–78. Tenth Wis. Vol. Light Artil, 61–65; instr, U. S. N, 66–76; *examiner of pensions, U. S. Civil Service, 77–* Reporter, 'Wash. Daily Chronicle,' 69–70; lecturer archeol, Catholic, 90–93; prof. in partibus, Albertus Magnus, 02.

Medal from King of Denmark, 83, and of Portugal, 87; knighted by King of Italy, 87; medal, Royal Portugese Soc. Archeol. and Archit, 89; hon. Sc.D, Albertus Magnus, 90. Assoc. mem. Int. Cong. Americanists. Acad. Polit. and Social Sci; Trinity (Tex.) Hist. Soc; Soc. Am. Authors; laureate mem. Royal Portugese Soc. Archeol. and Archit; hon. mem. Royal Norwegian Acad; Bologna Royal Acad. Belles Letters. Archeology; botany; heraldry; Persian literature.—Exploration of the James, Chickahominy, Choptank, Potomac and Shenandoah rivers, Virginia.

Reynolds, Dr. Frederick G, College City of New York, New York, N. Y. *Mathematics.* New York, Feb. 2, 72. B.S, Col. City of N. Y, 91; LL.B, N. Y. Univ, 96, M.S, 99, Sc.D, 04. *Instr. math, Col. City of N. Y, 91–* Math. Soc. Viscosity coefficient of air.

Rhees, W(illia)m J(ones), Smithsonian Institution, Washington, D. C. *Bibliography, Statistics.* Philadelphia, Pa, March 13, 30. A.B, Central High Sch, Phila, 47. Chief clerk, *Smithsonian Inst, 53–91, keeper of archives, 91–* Acting asst. sec'y and acting sec'y, Smithsonian Inst. Anthrop. Ass; Library Ass; Columbia Hist. Soc. Anthropology; bibliography; genealogy; history; statistics.—History; genealogy; statistics.

Rhoads, Samuel N(icholson), Haddonfield, N. J. *Zoology, Bibliophily.* Philadelphia, Pa, April 30, 62. Harvard, 92. Asst. zool, Acad. Nat. Sciences, Phila, 95–96; field collector, Carnegie Mus, Pittsburg, 98; asst. archeol, Free Mus. Science and Arts, Pennsylvania, 00. Mem. Ornith. Union; Del. Valley Ornith. Club; life mem. Phila. Acad. Mammals and birds; zoological nomenclature.—Bird language; bibliophily.

Rice, Arthur L(ouis), 355 Dearborn St, Chicago, Ills. *Electrical and steam engineering.* Barre, Mass, May 14, 70. B.S. in mech. eng, Worcester, 91, in elec. eng, 93; fellow, Cornell, 95–96, M.M.E, 96. Instr. mech. eng, Worcester, 92–95; head, Dept. Applied Elec, Pratt Inst, 97–01; assoc. ed, *'Engineer,'* 02–03, *ed, 03–* Elec. Eng; Mech. Eng. (asst. sec'y, 01–03). Cylinder condensation in steam-engines; liquid air phenomena.—The economic limits of superheating of steam.

Rice, Dr. C(hauncey) B(rewster), 61 Huntington St, New Haven, Conn. *Experimental physics.* New Haven, March 14, 72. Ph.B, Yale, 94, Ph.D, 01. Elec. engineer, White, Crosby Co, N. Y, 94–96; asst. physics, *Sheffield Sci. Sch, Yale,* 96–01, *instr,* 02–04, *applied elec, 05–* High frequency alternating currents.—Alternating current motors.

Rice, Prof. Edward L(oranus), 134 Lincoln Ave, Delaware, O. **Zoology.* Middletown, Conn, March 18, 71. A.B, Wesleyan, 92; Ph.D, Munich, 95. Asst. *zool,* Wesleyan, 96; *prof,* Allegheny, 96–98; *Ohio Wesleyan, 98–* F.A.A; Soc. Nat; Soc. Zool; Ohio Acad. Gill structure of lamellibranchs.

Rice, E(dwin) W(ilbur), Jr, Schenectady, N. Y. **Electrical engineering.* La Crosse, Wis, May 6, 62. A.M, Central High Sch, Phila, 85. Supt. and later tech. director, Thomson-Houston Elec. Co, 83–94; *third v. pres, Gen. Elec. Co, 94–* Hon. A.M, Harvard; Chevalier Légion d'honneur. M.A.A; Elec. Eng; British Inst. Elec. Eng; British Inst. Civil Eng.

Rice, Prof. H(erbert) L(ouis), U. S. Naval Observatory, Washington, D. C. *Mathematics, Astronomy.* Chicago, Ills, Dec. 18, 69. Michigan, 88–91; B.S, Columbian, 93, M.S, 94. Asst, 'Nautical Almanac' Office, 92–02; *asst. astronomer, U. S. Naval Observatory, 02–;* instr. *astron, George Washington,* 94–97, *prof,* 97– Astron. and Astrophys. Soc. Mathematics; mathematical astronomy.

Rice, Prof. M(artin) E(verett), 1223 Vermont St, Lawrence, Kas. *Physics, Electrical engineering, Mathematics.* Westfield, N. Y, Nov. 19, 70. B.S, Kansas, 91, M.S, 93; Chicago, summers, 94, 96, Yerkes Observatory, summer, 98. Instr, Dept. Physics and Math, *Kansas,* 92–96, *asst. prof.* physics and math, 96–98, *physics and elec. eng, 98–* M.A.A; Astron. and Astrophys. Soc. The inverse of conics and conicoids from the center; effect of magnetism on spectral lines; alternating currents in Wheatstone's bridge.

Rice, Prof. W(illia)m North, Middletown, Conn. **Geology.* Marblehead, Mass, Nov. 21, 45. A.B, Wesleyan, 65; Ph.D, Yale, 67; Berlin, 67–68. *Prof.* geol. and nat. hist, *Wesleyan,* 68–84, *geol, 84–* Asst. geologist, U. S. Geol. Surv, 91–92; lecturer science and religion, Colgate, 97–00; supt, Conn. Geol. and Nat. Hist. Surv, 03– LL.D, Syracuse, 86. F.A.A. (v. pres, 05); Soc. Nat. (pres, 91); Geol. Soc; Nat. Geog. Soc; Conn. Acad. Geology of Bermuda.—Geology of the Connecticut Valley; relations of science and religion.

Richards, Dr. Alfred N(ewton), 437 W. 59th St, New York, N. Y. *Pharmacology.* Stamford, N. Y, March 22, 76. A.B, Yale, 97, A.M, 99; Ph.D, Columbia, 01; research scholar, Rockefeller Inst. for Med. Research, 01–04. Asst. physiol. chem, *Columbia,* 98–02, tutor, 02–04, *instr. pharmacol, 04–* Physiol. Soc; Soc. Physiol. Chem; Chem. Soc; Soc. Exp. Biol. and Med. Chemical composition of elastic tissue; composition and amylolytic power of human saliva.—Cause of certain forms of experimental glycosuria.

Richards, Prof. Charles B(rinckerhoff), 227 Edwards St, New Haven, Conn. *Mechanical engineering.* Brooklyn, N. Y, Dec. 23, 33. Private schools. In charge mfg. establishments until 84; *prof. mech. eng, Sheffield Sci. Sch, Yale, 84–* Consulting engineer, N. Y. City, 58–60; expert, U. S. Commission, Paris Expos, 89. Hon. A.M, Yale, 84; Chevalier Légion d'honneur. F.A.A; Mech. Eng; Naval Archit. and Marine Eng; Conn. Acad; cor. mem. Soc. Industrielle de Mulhouse. Strength of materials;

heating and ventilation of buildings; science and practise of mechanical engineering.

Richards, Prof. C(harles) R(uss), 1803 A St, Lincoln. Nebr. *Mechanical engineering.* Clarkshill, Ind, March 23, 71. B.M.E, Purdue, 90, M.E, 91; M.M.E, Cornell, 95. Instr. mech. eng, Colo. Agr. Col, 91–92; adj. prof. manual training, *Nebraska,* 92–95, assoc. prof. practical mech, 95–97, *prof. mech. eng. and director, Sch. Mech. Arts, 97–* Special commissioner of machinery, Trans-Miss. Expos, 97; consulting engineer for Lincoln, Nebr, 04–05. Mech. Eng; Eng. Educ; Nebr. Soc. Eng; Nebr. Acad. Heating value of corn and of the Nebraska coal supply; the efficiency of throttling compound engines.

Richards, E(dgar), 341 W. 88th St, New York, N. Y. *Chemistry.* New York, Feb. 23, 58. Sch. of Mines, Columbia, 76–81. Asst. chemist, U. S. Dept. Agr, 82–87; chemist, Internal Revenue Bur, U. S. Treas. Dept, 87–92. F.A.A; Chem. Soc; Min. Eng; Soc. Chem. Indust; Pub. Health Ass; Wash. Chem. Soc. (pres, 89); British Soc. Pub. Analysts; London Chem. Soc; Soc. chim. de Paris. Agricultural chemistry; foods; fermentation; microscopy; mineralogy; etc.

Richards, Prof. Eugene L(amb), 315 York St, New Haven, Conn. *Mathematics.* Brooklyn, N. Y, Dec. 27, 38. A.B, Yale, 60, A.M, 87. Tutor, 68–71; asst. prof. *math, Yale,* 71–91, *prof, 91–* Director, Gymnasium, Yale, 92–00. Mathematics.

Richards, Dr. Herbert M(aule), Harvard Club, New York, N. Y. **Botany.* Philadelphia, Pa, Oct. 6, 71. B.S, Harvard, 91, Sc.D, 95, Parker fellow, 95–96. Asst. *bot,* Harvard, and instr. Radcliffe, 91–95; tutor, Barnard, Columbia, 96–98; instr, Harvard, 97–98; *Barnard, Columbia,* 98–03, *adj. prof, 03–* Assoc. ed, 'Am. Naturalist'; 'Bot. Centralblatt'; 'Plant World.' F.A.A; Soc. Nat; Bot. Soc; Soc. Plant Morph. and Physiol; Torrey Bot. Club (assoc. ed, 'Bul.'); New Eng. Bot. Club. The structure and development of Algae and fungi; reactions of plants to the stimulus of wounding and to chemical stimulus.—Influence of carbon monoxid upon plants.

Richards, Prof. Horace C(lark), 4812 Fairmount Ave, Philadelphia, Pa. *Physics.* Philadelphia, Jan. 4, 68. A.B, Pennsylvania, 88; Ph.D, Pennsylvania, 91, Hopkins, 91–92. Instr. *physics,* Bryn Mawr, 92–93; *Pennsylvania,* 93–03, *asst. prof, 03–* Physical Soc.

Richards, Prof. Jos(eph) W(illiam), Lehigh University, Bethlehem, Pa. **Metallurgy, Mineralogy, Electrochemistry.* Oldbury, England, July 28, 64. A.B, Central High Sch, Phila, 82, A.M, 87; A.C, Lehigh, 86, M.S, 91, Ph.D, 93; Heidelberg and Freiburg, 97–98. Asst. supt, Del. Metal Refinery, Phila, 86–87; instr. *metal. and miner, Lehigh,* 87–97, asst. prof, 97–02, acting prof, 02–03, *prof, 03–* Mem. Assay Commission to Test Coinage, 97; Jury of Awards, Phila. Export Expos, 00. Rep. of Franklin Inst. to Int. Geol. Cong, St. Petersburg, 97. Chem. Soc. (v. pres, 99); Electrochem. Soc. (first pres, 02, 03); Min. Eng; Franklin Inst. (pres, Chem. Sect, 97); Faraday Soc; Gt. Britain Iron and Steel Inst; Bunsen Gesell. Specific heats and latent heats of fusion of the metals; investigations of physical and chemical properties and isolation of aluminium and its alloys; improved methods of quantitative blowpipe analysis; the assay of gold ores containing tellurium; thermal efficiency of electric furnaces; electrolysis of water.—Rationale of blast-furnace operations.

Richards, Prof. Robert H(allowell), 32 Eliot St, Jamaica Plain, Mass. *Mining engineering, Metallurgy.* Gardner, Me, Aug. 26, 44. B.S, Mass. Inst. Tech, 68. Asst. chem, *Mass. Inst. Tech,* 68–69, instr. assaying and qual. anal, 69–70, asst. prof. anal. chem, 70–71, prof. miner. and assaying and in charge, Mining and Metal. Laboratories, 71–72, prof. mining eng, 73–84, *head, Mining Dept, 73–, prof. mining eng. and metal, 84–* Sec'y of the Faculty, 78–83. F.A.A; Min. Eng. (pres, 86); Am. Acad; Boston Soc. Civil Eng. Ore dressing.

Richards, Mrs. Robert H. (Ellen Henrietta Swallow), 32 Eliot St, Jamaica Plain, Mass. **Sanitary chemistry, Hygiene.* Dunstable, Mass, Dec. 3, 42. A.B, Vassar, 70, A.M, 73; B.S, Mass. Inst. Tech, 73. Teacher, pub. sch, 67; tutor, 68–75; teacher, *Mass. Inst. Tech,* 76–84, *instr. sanit. chem, 84–* Chemist, Mass. State Board of Health, 72–75, water analyst, 87–97; chemist, Mfg. Mutual Fire Ins. Co, 84–94; mem. Jury of Awards, Atlanta and Nashville Expositions. F.A.A; Chem. Soc; Min. Eng; Acad. Polit. and Social Sci; Pub. Health Ass; Nat. Geog. Soc; Boston Soc. Nat. Hist; Wash. Acad. Water; sanitary problems; ventilation; food in relation to health; students' dietaries.—Blue-green Algae in water; effect of moisture in air upon human health and comfort; therapeutic value of certain foods in diet of insane; food in the general dietary; sociology.

Richards, Prof. Theodore W(illiam), 15 Follen St, Cambridge, Mass. **Chemistry.* Germantown, Pa, Jan. 31, 68. B.S, Haverford, 85; A.B, Harvard, 86, A.M, Ph.D, 88; Göttingen, 88–89; Dresden, 89; Leipzig, 95; Göttingen, 95. Asst. *chem, Harvard,* 89–91, instr, 91–94, asst. prof, 94–01, *prof, 01–, chairman, Chem. Dept, 03–* Director, Summer Sch. of Chem, Harvard, 90; advisor, Carnegie Inst, 02; acting director, Harvard Chem. Lab, 05. Hon. Sc.D, Yale, 05. Nat. Acad; F.A.A; Chem. Soc; fel. Am. Acad; Philos. Soc; Wash. Acad; British Ass. Atomic weights of oxygen, copper, barium, strontium, zinc, magnesium, iron, nickel, cobalt, uranium, caesium; cupramonium compounds; occlusion and inclusion; taste of acids; spectra of gases; electrical resistance and thermal expansion of gases; electrochemical equivalents and silver voltameter; heat capacity; equilibrium of chromium solutions; birth and growth of crystals

by microkinetoscope; apparatus and methods for exact investigation.—Atomic weights; compressibility of elements and compounds; energy relations of systems under varying conditions; accurate calorimetry; standardizing thermometers by bicomponent systems; electrochemistry.

Richardson, Prof. C(harles) H(enry), 4 College St, Hanover, N. H. *Chemistry, Mineralogy, Geology.* Topsham, Vt, Sept. 26, 62. A.B, Dartmouth, 92, A.M, 95, fellow, 95–98, Ph.D, 98; Chicago, summer, 02. Principal, Black River Acad, Ludlow, Vt, 92–93; Green Mt. Sem. and Minard Commercial Col, 93–95; asst. chem, *Dartmouth, 95–98, instr.* chem. and miner, 98–01, *miner. and geol, 01–* Mem. Gen. Educ. Com, Paris Expos, 01. Mem. Eighth Int. Geog. Cong. M.A.A; Geol. Soc; Chem. Soc; Vt. Bot. Club. Anatomy and physiology of Pinus sylvestris; the calciferous mica schist of eastern Vermont; analysis of Washington marbles; the terranes of Orange County, Vt; Washington limestone and its associated terranes.—Delicacy of chemical reactions; areal and economic geology of northeastern Vermont.

Richardson, Clifford, 122 E. 34th St, New York, N. Y. **Chemistry.* Worcester, Mass, March 6, 56. A.B, Harvard, 77. Field asst, U. S. Geol. and Geog. Surv. (Hayden), 78; asst. chemist, U. S. Dept. Agr, 78–83, principal asst, 83–87; inspector of asphalt and cements and chemist, Eng. Dept, D. C, 87–94; practising chemist, 94–95; supt. of tests, The Barber Asphalt Paving Co, 96–00; *director, N. Y. Testing Lab, 00–* F.A.A; Chem. Soc; Soc. Chem. Indust. (chairman, N. Y. Sect, 00–02); Ass. Off. Agr. Chemists (sec'y, 85–87); Mech. Eng; Soc. Testing Materials; Wash. Acad; N. Y. Chemists Club; London Chem. Soc; Chem. Gesell. Chemistry of the cereals and grasses; food adulteration; asphalts and native bitumens; hydraulic cements.—Classification and study of native bitumens; constitution of Portland cement; uniformity in chemical analysis.

Richardson, Dr. G(eorge) B(urr), U. S. Geological Survey, Washington, D. C. *Geology.* New York, N. Y, Aug. 21, 72. B.S, Harvard, 95, M.S, 97; fellow, Hopkins, 99–00, Ph.D, 01. Asst. physics, Harvard, 93–95; chemist, Warren Paper Mills, Cumberland Mills, Me, 96; *asst. geologist, U. S. Geol. Surv, 00–* Wash. Geol. Soc. Indiana folio; reconnaisance in Trans-Pecos, Texas; hydrology of Utah Lake and Jordan Valleys.—El Paso folio.

Richardson, Dr. Harriet, 1864 Wyoming Ave, Washington, D. C. *Zoology.* Washington. A.B, Vassar, 96, A.M, 01; Ph.D, Columbian, 03. *Collaborator, Smithsonian Inst, 01–* F.A.A; Wash. Acad; Wash. Biol. Soc. Isopod Crustacea.—Systematic work on the Isopoda.

Richardson, Dr. Mark W(yman), 90 Equitable Building, Boston, Mass. *Medicine, Bacteriology, Pathology.* Fitchburg, Mass, Dec. 27, 67. A.B, Harvard, 89, M.D, 94; Berlin and Vienna, 94–95; Bullard fellow, Harvard, 98; Dalton scholar, Mass. Gen. Hosp, 98–01. Asst. path, Harvard, 97–99, theory and practise of med, 99–00; *chief examiner, Equitable Life Assurance Soc. of the U. S.* F.A.A; Am. Physicians; Ass. Path. and Bact; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. Bacteriology of typhoid fever.—Typhoid immunity, with special reference to a possible serum treatment for the disease.

Richardson, Dr. Oscar, 405 Marlborough St, Boston, Mass. *Pathology, Bacteriology.* East Boston, Jan. 22, 60. M.D, Harvard, 00. *Asst. pathologist, Mass. Gen. Hosp, Boston, 97–* Ass. Path. and Bact; Boston Soc. Med. Sci. The cause of carcinoma; micro-organisms; status lymphaticus; psittacosis; tetanus; pseudopneumococcuc; a new chromogenic bacillus.

Richmond, Dr. Cha(rle)s W(allace), U. S. National Museum, Washington, D. C. *Ornithology.* Kenosha, Wis, Dec. 31, 68. Corcoran Sci. Sch, Columbian, 86–87; M.D, Georgetown, 97. *Asst. curator, Div. of Birds, U. S. Nat. Mus, 94–* Lecturer ornith, Georgetown. Fel. Ornith. Union; Wash. Acad; Wash. Biol. Soc. Exotic ornithology; bibliography of ornithology.—Catalogue of genera and species of birds, with synonyms.

Rickard, T(homas) A(rthur), 2335 Warring St, Berkeley, Cal. *Geology.* Pertusola, Italy, Aug. 29, 64. Assoc, Royal Sch. Mines, London, 85. Mine manager and consulting engineer, 87–02; *ed,* 'Eng. and Mining Jour,' N. Y. City, 03–05; *'Mining and Scientific Press,' San Francisco, 06–* Min. Eng; London Inst. Min. and Metal. The occurrence and formation of ore deposits.—The saddle reefs of Nova Scotia.

Rickards, Burt Ransom, 739 Boylston St, Boston, Mass. *Bacteriology, Chemistry.* Cambridge, Mass, Sept. 28, 76. B.S, Mass. Inst. Tech, 99. Instr. anal. chem, Textile Sch, Lowell, Mass, 99–00; first asst. bacter. and chem, *Boston Board of Health Lab,* 00–05, *director, 05–* Soc. Bact; Chem. Soc; Pub. Health Ass; Mass. Ass. Boards of Health. Bacteriological methods; morphology of bacteria; investigation of methods of disinfection and their value.

Ricker, Maurice (G), 911 College Ave, Burlington, Ia. *Natural science.* Wataga, Ills, July 18, 69. B.S, Drake, 92. Teacher science, *High Sch,* Marshalltown, Ia, 92–96; biol, *Burlington,* 96–99, *principal, 99–* Lecturer, Biol. Sta, Montana, 01– M.A.A; fel. Iowa Acad. Plankton in Montana lakes and rivers; hydra and hydrachnids; photography applied in biological problems.—Plankton.

Ricker, Prof. N(athan) Clifford, 612 W. Green St, Urbana, Ills. *Architecture, Engineering.* Acton, Me, July 24, 43. B.S, Illinois, 72, M. Archit, 77. Instr. archit, *Illinois,* 73–75, asst. prof, 75–78, *prof. archit, 78–;* dean, Col. of Eng, 78–05. Pres, Ills. Board of Examiners of Architects, 99– Hon. D. Archit, Illinois, 00. M.A.A; hon. mem. and fel. Inst. Archit; Eng. Educ; West. Eng. Soc; Ills. Soc. Eng. and Surveyors. History of architecture; architectural engineer-

ing; graphic statics.—Economical design of trussed roofs.

Ricker, P(ercy) L(eroy), Office of Botanical Investigations, U. S. Department of Agriculture, Washington, D. C. *Botany.* Brunswick, Me, March 27, 78. B.S, Maine, 00, M.S, 01. Asst. biol, Maine, 01; asst, Herbarium, *U. S. Dept. Agr,* 01–05, *asst. botanist, 05–* M.A.A; Mycol. Soc; New Eng. Bot. Club; Wash. Bot. Soc. Maine fungi; bibliographical and taxonomic study of grasses; mycology.

Ricketts, Dr. H(oward) T(aylor), 5498 Cornell Ave, Chicago, Ills. *Pathology.* Findlay, O, Feb. 9, 71. A.B, Nebraska, 94; M.D, Northwestern, 97; interne, Cook Co. Hosp, 98–99; fellow, Rush Med. Col, 99–01; Berlin, Vienna and Paris, 01–02. Asst. dermat, Rush Med. Col, 99–01; assoc. *path, Chicago,* 02–03, *instr, 03–* Ass. Path. and Bact; Chicago Path. Soc. (pres, 05–06); Chicago Med. Soc. Blastomycetic dermatitis; biology of organisms of blastomycetic dermatitis.—Cytotoxins in relation to infectious diseases; immunity in blastomycosis.

Ricketts, Pres. Palmer C(hamberlaine), Troy, N. Y. *Mechanics.* Elkton, Md, Jan. 17, 56. C.E, Rensselaer, 75. Instr. math, *Rensselaer,* 75–82, asst. prof, 82–84, *prof. rational and tech. mech, 84–, director, 92–, pres, 01–* Consulting engineer, Troy and Boston R. R, and R. W. and O. R. R; engineer, Pub. Improv. Commission, Troy, N. Y. Hon. D.E, Stevens, 05. F.A.A; Civil Eng; Mech. Eng; British Inst. Civil Eng. Constants of structural steel.

Ricketts, Pierre de Peyster, 104 John St, New York. **Chemistry.* Formerly prof. chem, Columbia; *consulting chemist.* F.A.A; Chem. Soc; fel. N. Y. Acad.

Ridgway, R(obert), Brookland, D. C. **Ornithology.* Mount Carmel, Ills, July 2, 50. M.S, Indiana, 84. Zoologist, U. S. Geol. Exploration of 40th Parallel, 67–69; *curator, Div. of Birds, U. S. Nat. Mus, 76–* Mem. Advisory Council, World's Cong, Columbian Expos, 92. Mem. Int. Permanent Ornith. Committee, Vienna, 85; Second Int. Ornith. Cong, Budapest, 91. Fel. Ornith. Union (v. pres, 84–01, 96–98, pres, 99, 00); Forestry Ass; Wash. Biol. Soc; Wash. Acad; cor. mem. N. Y. Acad; Phila. Acad; cor. mem. Boston Zool. Soc; Boston Soc. Nat. Hist; cor. mem. Chicago Acad; Mich. Ornith. Club; Davenport Acad; Wash. Philos. Soc; hon. mem. Nuttall Ornith. Club; British Ornith. Union; cor. mem. London Zool. Soc; Manchester (England) Lit. and Philos. Soc; Australian Ornith. Union. Ornithology, especially systematic or technical; botany, principally with reference to that of the lower Wabash Valley.—Birds of North and Middle America.

Riechmann, Dr. F(ritz), Troy, N. Y. *Physics.* Austin, Tex, Dec. 23, 75. Fellow, Texas, 95–97, C.E, E.E, 96, M.S, 97; fellow, Chicago, 98–01, Ph.D, 01. Instr. physics, Texas, 97–98; Acad, Chicago, 00–01; Western Reserve, 01–03; *physicist, W. and L. E. Gurley's Inst. Fac'y, 01–* M.A.A; Physical Soc; Tex. Acad.

Riederer, Dr. Herman S(imon), 251 W. 95th St, New York, N. Y. *Chemistry, Metallurgy.* New York, Dec. 21, 79. B.S, Col. City of N. Y, 98; A.M, Columbia, 01, Ph.D, 03. With the Standard Oil Co, N. Y, 02; Passaic Print Works, Passaic, N. J, 03; *Cawley, Clark and Co, Newark, N. J, 04–* Chem. Soc; Soc. Chem. Indust; N. Y. Chemists Club. Bismuth.

Ries, Dr. Heinrich, 49 Thurston Ave, Ithaca, N. Y. **Geology.* Brooklyn, N. Y, April 30, 71. Ph.B, Columbia, 92, fellow, 93–95, A.M, 94, Ph.D, 96, Barnard fellow, 97–00. Asst. miner, Columbia, 96–97; instr. *econ. geol, Cornell,* 98–02, *asst. prof, 02–* Asst. geologist, N. Y. Geol. Surv, summers, 91, 92, 95; Mich, 98; Md, 00; N. J, 01, 02; Tex, 03; Wis, 04; Va, 05; special agent, U. S. Geol. Surv, 95–; lecturer, New York pub. schools, 95–97; mem. Jury of Awards, Atlanta Expos, 95; Pan.-Am. Expos, 01; La. Purchase Expos, 04. F.A.A; Geol Soc; Min. Eng; Nat. Geog. Soc; Ceramic Soc; fel. N. Y. Acad. Clay, its occurrence, uses and geological distribution.

Riesman, Dr. David, 1624 Spruce St, Philadelphia, Pa. *Medicine.* Stadt-Lengsfeld, Germany, March 25, 67. M.D, Pennsylvania, 92. *Prof. clin. med, Phila. Polyclinic, 00–; assoc. med, Pennsylvania, 03–* Visiting physician, Phila. and Jewish Hospitals; collaborator, 'Am. Medicine.' Am. Physicians; Ass. Path. and Bact; Am. Med. Ass; Phila. Col. Physicians; Phila. Path. Soc; German-Am. Hist. Soc. Clinical medicine; pathology.

Rietz, Dr. H(enry) L(ewis), 805 S. Goodwin Ave, Urbana, Ills. *Mathematics.* Gilmore, O, Aug. 24, 75. B.S, Ohio State, 99; fellow, Cornell, 00–01, Ph.D, 02. Asst. math, Cornell, 01–02; prof. math. and astron, Butler, 02–03; instr. *math, Illinois,* 03–04, *asst. prof, 04–* M.A.A; Math. Soc. Group theory.—The mathematics of statistics.

Riggs, Dr. Louis Warner, 214 Central Ave, Flushing, N. Y. *Chemistry, Toxicology.* Georgetown, Me, April 13, 62. B.M.E, Maine, 85; Ph.B, Ills. Wesleyan, 87, A.M, Ph.D, 94. *Instr.* sciences, Greely Inst, Cumberland, Me, 84–86; Mt. Hermon Sch, Mass, 87–89; Sch. for Boys, Englewood, N. J, 90–93; *chem,* N. Y. Univ, 93–98; *Med. Col, Cornell, 98–* Asst. chemist to Prof. R. A. Witthaus, 92–02. Chem. Soc; Chem. Gesell. Post-mortem imbibition of arsenic; testing various schemes of quantitative analysis, with special reference to toxicological separations.

Riggs, Prof. N(orman) C(olman), Armour Institute, Chicago, Ills. *Mathematics.* Bowling Green, Mo, Nov. 1, 70. B.S, Missouri, 95; M.S, Harvard, 98. Instr. *math,* Missouri, 94–95, acting asst. prof, 97–98; instr, Pa. State, 99–02; asst. prof, *Armour Inst,* 02–04, *assoc. prof, 04–* M.A.A; Math. Soc; Franklin Inst.

Riggs, Prof. R(obert) B(aird), 35 Forest St, Hartford, Conn. *Chemistry.* Hazelwood, Minn, May 22, 55. A.B, Beloit, 76; Ph.D, Göttingen, 83. Chemist, U. S. Geol. Surv, 84–87; *prof.*

chem, Nat. Col. of Pharmacy, 85–87; *Trinity (Conn.)*, *87–* F.A.A; Chem. Soc. Constitution of tourmalin.

Riley, Dr. I(saac) Woodbridge, Johns Hopkins University, Baltimore, Md. *Philosophy.* New York, N. Y, May 20, 69. A.B, Yale, 92, A.M, 98, Ph.D, 02. Instr. English, N. Y. Univ, 97–98; acting prof. philos, New Brunswick, 02–04; *Henry E. Johnston scholar, Hopkins, 04–* Assoc. ed, 'Psychol. Bul'. F.A.A; Philos. Ass; Psychol. Ass. Speculative movements in America; Italian psychology.—History of philosophy in America.

Riley, Dr. W(illia)m A(lbert), Cornell University, Ithaca, N. Y. *Entomology.* Mankato, Minn, Jan. 10, 76. B.S, De Pauw, 97; fellow, Cornell, 98–99, Ph.D, 03. Asst. zool, De Pauw, 96–98; *entom, Cornell*, 99–01, *instr, 01–* M.A.A. Development of the skeleton of the head of Blatta.—Insect histology and embryology.

Ripley, Dr. W(illiam) Z(ebina), Newton Centre, Mass. *Economics, Sociology.* Medford, Mass, Oct. 13, 67. B.S, Mass. Inst. Tech, 90; fellow, Columbia, 91–93, A.M, 92, Ph.D, 93. Instr. *econ*, Mass. Inst. Tech, 93–95, asst. prof, 96–97, assoc. prof, 97–99, *prof*, 00–02; *Harvard, 02–* Lecturer demography, Columbia, 93–01; expert in transportation, U. S. Indust. Commission, 00–01. Bertillon prize, Soc. d'Anthrop. de Paris, 01. Econ. Ass. (v. pres, 99–00); hon. cor. mem. Soc. d'Anthrop. de Paris; Rome Soc. d'Antrop; Cherbourg Acad; Holland Zeeuwsch Genootschop por Wetenschappen. Demography of Europe and United States; transportation. —Railroad economics; corporations.

Rising, Prof. W(illard) B(radley), University of California, Berkeley, Cal. **Chemistry.* Mechlenburg, N. Y, Sept. 26, 39. A.B, Hamilton, 64; M.E, Michigan, 67; Ph.D, Heidelberg, 71. Instr. chem, *California*, 66–67, *prof.* nat. science, 67–69, *chem, 72–* Chem. Soc. Thermal chemistry.

Risley, Dr. Samuel D(oty), 1728 Chestnut St, Philadelphia, Pa. *Ophthalmology, Otology.* Cincinnati, O, Jan. 17, 45. Iowa, 65–68; M.D, Pennsylvania, 70. Chief, Eye Clinic, lecturer ophthal. and asst. ophthal. surgeon, Pennsylvania, 72–89; *attending surgeon, Wills Eye Hosp, Phila, 89–;* prof. *ophthal, Phila. Polyclinic*, 90–01, *emer. prof, 01–* Ophthal. surgeon to various hospitals; manager, Elwyn Training Sch. for Feeble-minded Children, 97– Hon. A.M, Iowa, 83; Ph.D, Wagner Free Inst. Ophthal. Soc. (pres, Sect, 93); Otol. Soc; Am. Med. Ass. (chairman, Ophthal. Sect, 93); Am. Acad. Med. (pres, 01); Climat. Ass; Phila. Co. Med. Soc; Phila. Col. Physicians. The use of mydriatics; hygiene of vision in the school; social evolution.

Risser, Jonathan, Beloit College, Beloit, Wis. *Zoology.* Summerfield, Ills, Jan. 29, 69. B, Iowa (Grinnell), 97; A.M, Brown, 00. Asst. biol, Iowa (Grinnell), 97–99; *zool, Bel. Mar. 01–* Investigator, R. I. Fish Commission, 00–01. Development and embryology of Pecten.—Aortic arches and vessels in Chelonia.

Risteen, Dr. A(llan) D(ouglas), P. O. Drawer P, Hartford, Conn. *Mathematical physics.* Amesbury, Mass, Aug. 15, 66. B.S, Worcester, 85; Ph.D, Yale, 03. With U. S. Coast Surv, 85–87; *ed. with Hartford Steam Boiler Inspection and Ins. Co, 87–* Asst. ed, 'Century Dict.' Physical Soc. Absolute thermodynamic temperature scale; effect of temperature on gravitative attraction; theory of binary stars.—Id; differential equations of physics.

Ritchey, Prof. G(eorge) W(illis), Solar Observatory Office, Pasadena, Cal. **Astronomy.* Tuppers Plains, O, Dec. 31, 64. Cincinnati, 83–84, 86–87. Asst, Cincinnati Observatory, 86–87; instr. manual training, Chicago Manual Training Sch, 88–96; optician, Yerkes Observatory, 96–99, supt. of instrument construction, 99–04; instr. practical astron, Chicago, 01–04, asst. prof, 04–05; *astronomer and supt. of instrument construction, Solar Observatory, Carnegie Inst, 05–* Astron. and Astrophys. Soc; assoc. Royal Astron. Soc. Photography of nebulae and star-clusters in the attempt to detect evidence of development; development of the reflecting telescope as a photographic instrument; development of the horizontal telescope; construction of the two-foot reflecting telescope (Yerkes Observatory); construction of a two-foot horizontal reflecting telescope of 145 feet focal length with coelostat; photography of nebulae and star-clusters with the two-foot reflector; photography of star-clusters and the moon with 40-inch refractor of Yerkes Observatory with color screen.—Construction and use of a reflecting telescope of five-foot aperture and 25 feet focal length for astronomical photography.

Ritchie, John, Jr, Box 2795, Boston, Mass. *Astronomy, Conchology.* Boston, April 18, 53. English High Sch, Boston. Asst, Harvard Col. Observatory, 83–92. Fel. Am. Acad; Appalachian Mt. Club; Boston Sci. Soc; London Malacol. Soc. Astronomy; conchology; ice caves; bleaching processes.

Ritter, Prof. W(illia)m E(merson), 2434 Durant Ave, Berkeley, Cal. **Zoology.* Otsego, Wis, Nov. 19, 56. B.S, California, 88; A.M, Harvard, 91, Ph.D, 93. Instr. biol, *California*, 91–93, asst. prof, 93–98, assoc. prof. *zool*, 98–02, *prof, 02–* Director, San Diego Mar. Biol. Sta; ed, 'Zool. Publications,' Univ. of Cal; assoc. ed, 'Am. Naturalist.' F.A.A; Soc. Nat; Soc. Zool; Am. Geog. Soc; life mem. Cal. Acad. (pres, 98–00). Pineal organ; eyes of Pt. Loma blind fish; budding in ascidians; morphology and systematic of ascidians and Enteropneusta; life histories of salamanders; multiple arms in starfish.—Morphology and systematic of Ascidia and Enteropneusta; Ascidia and Enteropneusta of the Pacific Coast.

Robb, Dr. W(illia)m Lispenard, Electrical Laboratory, Rensselaer Polytechnic Institute, Troy, N. Y. **Physics, Electrical engineering.* Sara-

toga, N. Y, 61. A.B, Columbia, 80, fellow, 80–83; Ph.D, Berlin, 83; Barnard fellow, Columbia, 93–96. Asst. math, Columbia, 84–85; *prof.* physics, Trinity (Conn.), 85–02; *physics and elec. eng, Rensselaer, 02–* Consulting elec. engineer for several corporations. LL.D, Trinity (Conn.), 02. Physical Soc; Elec. Eng; Mech. Eng. Electrical engineering.

Robbins, Reginald C(hauncey), 373 Washington St, Boston, Mass. *Ornithology, Botany, Meteorology.* Boston, Nov. 10, 71. A.B, Harvard, 92. Overseers' standing committee on philos, Harvard, 02–05. Assoc. Ornith. Union; Philos. Ass; Forestry Ass; Mass. Audubon Soc. (director); Mass. Forestry Ass; Boston Soc. Nat. Hist.

Roberts, Prof. H(erbert) F(uller), Manhattan, Kas. *Botany.* Manhattan, Dec. 2, 70. A.B, Kansas, 91; LL.B, Northwestern, 93; M.S, Kas. State Agr. Col, 98; Chicago, 98–99. Instr. *bot,* Washington (St. Louis), 99–01; *prof, Kas. State Agr. Col, 01–* Plant breeding; variation; hybridization.—Improvement of economic plants.

Roberts, Dr. H(illery) L(angstone), Charlottesville, Va. *Mathematics.* Charlotte Co, Va, Aug. 23, 72. A.M, Virginia, 96, Ph.D, 99. *Instr. math,* Jones's Univ. Sch, Charlottesville, Va, 92–94; *McGuire's Univ. Sch, 99–* Some of the geometrical properties of transformation groups.

Roberts, Prof. I(saac) P(hillips), Palo Alto, Cal. *Agriculture.* East Varick, N. Y, July 24, 33. M.Agr, Iowa State, 75. Prof. agr. and dean, Faculty Agr, *Cornell,* 73–94, director, Agr. Exp. Sta, 88–03, Col. Agr, 94–03, *emer. prof. and lecturer agr, 03–* Soc. Prom. Agr. Sci; Ass. Agr. Col; N. Y. State Agr. Soc. (pres.); N. Y. State Dairymen's Ass. (pres.). Conservation of moisture in the soil; tillage; clover crops; preservation of manures.—Effect of tillage on potatoes; melilotus as a green manure crop; effect on production by continuous growth of intertilled crops.

Roberts, Dr. John B(ingham), 313 S. 17th St, Philadelphia, Pa. *Anatomy, Surgery.* Philadelphia, Feb. 29, 52. A.B, Pennsylvania, 71, A.M, 74; M.D, Jefferson Med. Col, 74; M.D, Pennsylvania, 88. *Prof. surg, Phila. Polyclinic, 82–; surgeon, Methodist Epis. Hosp, 91–* Lecturer anat, Pennsylvania, 88–91; prof. surg, Woman's Med. Col. of Pa, 89–99; surgeon, Jewish Hosp; pres, Phila. Polyclinic and Col. for Grad. Med, 90–98. Fel. Surg. Ass. (v. pres, 94); Am. Med. Ass; fel. Am. Acad. Med. (pres, 04); Pa. Med. Soc. (pres, 94); fel. Phila. Acad. Surg. (v. pres, 04–); Phila. Co. Med. Soc. (pres, 91, 92); fel. Phila. Col. Physicians (Mütter lecturer, 00); Phila. Path. Soc. (v. pres, 82). Operative surgery; surgical anatomy.

Roberts, Dr. Tho(ma)s S(adler), 1603 Fourth Ave, S, Minneapolis, Minn. *Medicine, Ornithology.* Philadelphia, Pa, Feb. 16, 58. Minnesota; M.D, Pennsylvania, 85. *State ornithologist, Minn, 90–; prof. pediat, Med. Dept, Minnesota, 01–* On staff of City, Swedish and Northwestern Hospitals; physician, Home for Aged Women and for Children. Fel. Ornith. Union (mem. Council); Am. Med. Ass; cor. mem. Wash. Biol. Soc; Minn. Acad. (trustee and past pres.); Minn. Med. Soc; Minn. Acad. Med; N. Y. Linnean Soc; Nuttall Ornith. Club; Hennepin Co. (Minn.) Med. Soc. Ornithology of Minnesota.

Robertson, Prof. Charles, Carlinville, Ills. *Biology.* Carlinville, June 12, 58. Blackburn. Instr. bot. and Greek, *Blackburn,* 80–86, *prof. biol, 97–* M.A.A; St. Louis Acad. Mutual relations of flowers and insects.

Robin, Dr. Albert, Wilmington, Del. *Bacteriology, Pathology.* Ouman, Russia, April 6, 75. M.D, West. Pa. Med. Sch, 97. Pathologist and bacteriologist, Del. State Board of Health Lab, 99–03; *prof. path. and bacter, Temple Med. Col, 02–; bacteriologist, City Water Dept, Wilmington, 03–* Asst. ed, 'Phila. Med. Jour,' 01–03; dept. ed, 'Therapeut. Monthly,' 02–03; pathologist, Samaritan Hosp. Soc. Bact; Pub. Health Ass; Am. Med. Ass; Phila. Path. Soc. Laboratory methods.—Sanitary problems.

Robinson, Dr. B(enjamin) L(incoln), 3 Clement Circle, Cambridge, Mass. **Botany.* Bloomington, Ills, Nov. 8, 64. Williams, 83; A.B, Harvard, 87; Ph.D, Strasburg, 89; Bonn, 90. Asst, *Gray Herbarium, Harvard,* 90–92, *curator, 92–, Asa Gray prof. syst. bot, 00–* F.A.A; Bot. Soc. (pres, 00); fel. Am. Acad; New Eng. Bot. Club; cor. mem. Mass. Hort. Soc; cor. mem. R. I. Hort. Soc; Vt. Bot. Club; Boston Soc. Nat. Hist; Wash. Acad; cor. mem. Brandenberg Bot. Gesell. Classification and distribution of the spermatophytes of North America, Mexico and the Galapagos Islands.—Continuation of synoptical flora of North America; flora of the Galapagos Islands.

Robinson, Dr. Beverley, 42 W. 37th St, New York, N. Y. *Medicine.* Philadelphia, Pa, March 22, 44. A.B, Pennsylvania, 62; M.D, Paris, 72. *Clin. prof. med, Univ. and Bellevue Hosp. Med. Col.* Am. Physicians; N. Y. Acad. Med.

Robinson, Dr. D(aisy) M(aude) (Orleman), 159 W. 49th St, New York, N. Y. *Biology, Medicine.* Fort Riley, Kas, Nov. 6, 69. M.D, Columbian, 90; Zürich, 92–94; M.S, Columbian, 94. Teacher, pub. schools, Fla, 85–87; med. examiner, U. S. Pension Bur, 90–93; surgeon and assoc. principal, Peekskill Mil. Acad, 95–04. Clin. asst, N. Y. Polyclinic Med. Sch. F.A.A; N. Y. State Med. Soc; N. Y. Acad. Med; Westchester Co. (N. Y.) Med. Soc. (sec'y, 00–04). Ill effects of Röntgen rays; diagnosis and treatment of herpes zoster.

Robinson, Prof. F(ranklin) C(lement), 214 Maine St, Brunswick, Me. *Chemistry, Mineralogy.* East Orrington, Me, April 24, 52. A.B, Bowdoin, 73, A.M, 76; Summer Sch, Harvard, 82, 83. Asst. chem, *Bowdoin,* 74–75, instr. chem. and miner, 75–78, *prof.* nat. science, 78–85, *chem. and miner, 85–* State assayer, Me; mem. State Board of Health. LL.D, Bowdoin, 03.

F.A.A; Chem. Soc; Pub. Health Ass. (Exec. Committee, 98–99, chairman, Committee on Disinfectants, 97–, pres, 05). Disinfectants.

Robinson, Prof. Otis H(all), 273 Alexander St, Rochester, N. Y. *Physics, Astronomy.* Phelps, N. Y, Dec. 3, 35. A.B, Rochester, 61, A.M, 64; Ph.D, Ottawa, 94. Tutor math, *Rochester,* 64–67, asst. prof, 67–69, prof, 69–84, math. and nat. philos, 84–91, *nat. philos,* 91–03, *emer. prof, 03–* Lawyer, Rochester, 63–65; librarian, Rochester Univ, 66–89. F.A.A.

Robinson, Prof. S(tillman) W(illiams), 1353 Highland St, Columbus, O. *Engineering, Physics.* South Reading, Vt, March 6, 38. C.E, Michigan, 63. Engineer, U. S. Lake Surv, 63–66; instr. and asst. prof. eng, Michigan, 66–70; prof. mech. eng. and physics, Illinois, 70–78; *mech. eng, Ohio State,* 78–95, *emer. prof, 95–* State inspector of railroads, Ohio, 80–84; inventor and mech. engineer, Wire Grip Fastening Co. and McKay Shoe Mch'y Co, 84–98; consulting engineer, Santa Fe R. R, 87–89; Lick Telescope mountings, 87. Award and medal, Centennial Expos, 76; Rowland prize, Civil Eng; hon. Sc.D, Ohio State, 99. F.A.A. (v. pres, 93); Mech. Eng; Civil Eng; Eng. Educ; Naval Archit. and Marine Eng. Mechanical and civil engineering; physics; numerous patents.—Right-angled power transmitter couplings of constant velocity ratio.

Rockwell, Dr. W(illiam) H(ayden), Jr, 141 W. 76th St, New York, N. Y. *Medicine.* Brattleboro, Vt, Sept. 21, 67. A.B, Yale, 89; M.D, Columbia, 92. Asst. demonstrator anat, Columbia, 95–01. N. Y. Co. Med. Soc; N. Y. West End Med. Soc.

Rockwood, Prof. C(harles) G(reene), Jr, 34 Bayard Lane, Princeton, N. J. *Mathematics, Seismology.* New York, N. Y, Jan. 11, 43. A.B, Yale, 64, Ph.D, 66, A.M, 67. Prof. math. and nat. philos, Bowdoin, 68–74; math. and astron, Rutgers, 74–77; *math, Princeton,* 77–05, *emer. prof, 05–* Mem. Princeton Eclipse Exped, 78; work under U. S. Fish Commission, 89–91. Hon. A.M, Bowdoin, 69; Princeton, 96. Mem. Eighth Int. Geog. Cong, 04. F.A.A; Math. Soc; Metrol. Soc. (sec'y, 73–76); Social Sci. Ass; Nat. Geog. Soc; N. J. Hist. Soc. Seismology; American earthquakes; submarine temperatures.

Rockwood, Prof. E(lbert) W(illiam), Iowa City, Ia. *Chemistry, Toxicology.* Franklin, Mass, July 4, 60. B.S, Amherst, 84; M.D, Iowa, 95; Göttingen, 89; Strasburg, 90–91; Leipzig, 92, 94; Ph.D, Yale, 04. Instr. chem, Wesleyan, 84–86; Cornell, 86–87; *prof. chem. and toxicol, and head, Dept. Chem, Iowa, 88–* Chemist, Hatch Exp. Sta, 88; instr, English High Sch, Cambridge, Mass. Hon. A.M, Amherst, 01. M.A.A; Chem. Soc; Am. Med. Ass; Chem. Gesell. Physiological chemistry.

Roe, Prof. E(dward) D(rake), Jr, 105 Ostrander Ave, Syracuse, N. Y. **Mathematics.* Elmira, N. Y, Jan. 4, 59. A.B, Syracuse, 80; A.B, Harvard, 85, A.M, 86; Ph.D, Erlangen, 98. Instr. *math,* Acad, Media, Pa, 86–88; instr. pro tem, Harvard, 90; instr, Boston, 90–92; assoc. prof, Oberlin, 92–99; *Syracuse,* 00–01, *prof, 01–* M.A.A; Math. Soc; Math. Verein. Symmetric functions; invariants.

Rogers, Prof. A(rthur) K(enyon), 73 Hawthorne Lane, Indianapolis, Ind. *Philosophy.* Dunellen, N. J, Dec. 27, 68. A.B, Colby, 91; Ph.D, Chicago, 98. Instr. *philos. and educ,* Alfred, 99–00; *prof, Butler, 00–* Soc. Nat; Philos. Ass; West. Philos. Ass. Theory of knowledge; philosophy of religion.

Rogers, Dr. Austin F(lint), Stanford University, Cal. *Mineralogy, Crystallography.* Lathrop, Mo, Aug. 15, 77. Sch. of Mines, Missouri, 96–97; A.B, Kansas, 99, A.M, 00; fellow, Columbia, 00–02, Ph.D, 02. Asst. miner, Kansas, 98–00; tutor, Columbia, 02–05; *asst. prof. miner. and petrog, Stanford, 05–* Asst. geologist, Univ. Geol. Surv. of Kas, 98–00. Graphical methods in crystallography; morphology of crystals; minerals of Joplin lead and zinc district; coal measure fauna.—Study of crystal habit; graphical methods in crystallography; crystallin arrangement of minerals in fossils; determination of minerals by optical characters.

Rogers, Dr. David C(amp), Harvard University, Cambridge, Mass. *Philosophy.* New Britain, Conn, May 25, 78. Amherst, 95–97; A.B, Princeton, 99; Hartford Theol. Sem, 99–01; A.M, Harvard, 02, Ph.D, 03. Asst. *philos, Harvard,* 02–05, *instr, 05–* Asst. to pastor, South Congregational Church, New Britain, Conn, 00–01. Coordinations in space-perception.—Space-perception.

Rogers, Prof. F(rederick) J(ohn), Stanford University, Cal. *Physics.* Neoga, Ills, Sept. 9, 63. B.S, Kas. State Agr. Col, 85, M.S, 87; M.S, Cornell, 91. Asst. and instr. *physics,* Cornell, 91–00; *asst. prof, Stanford, 00–* Physical Soc.

Rogers, L(ore) A(lford), Experiment Station, Ames, Ia. *Dairy bacteriology.* Patten, Me, Feb. 7, 75. B.S, Maine, 96; Wisconsin, 97–98. Asst. bacteriologst, N. Y. Agr. Exp. Sta, Geneva, 99–02; *dairy bacteriologist, U. S. Dept. Agr, 02–* Soc. Bact. Cause of changes in canned butter; the relation of bacteria to flavors in Cheddar cheese; comparative bacterial flora of pasteurized and unpasteurized milk.—Causes of fishy flavor in butter; causes of changes in butter in cold storage.

Rolfe, Geo(rge) W(illiam), Cambridge, Mass. *Chemistry.* Cambridge, Feb. 10, 64. A.B, Harvard, 85, A.M, 86; Mass. Inst. Tech, 94. Asst, Chem. Lab, Harvard, 86; chemist, glucose company, 86–89; sub-master, High Sch, Brookline, 90; chemist, various glucose and sugar companies, 91–94; sewage investigations with Col. Geo. C. Waring, 95; *instr.* sugar analysis and anal. chem, *Mass. Inst. Tech,* 95–97, *sugar analysis, 97–* Instr. food chem, Boston Nor. Sch. Household Arts, 99. Chem. Soc; Chem. Gesell; Ass. Chim. de Suc. et de Dist. de France. Cane and milk sugar manufactures; starch,

glucose and allied products.—Hydrolysis of starch; optical analysis; sewage.

Rolfs, Prof. F(red) M(oss), Lake City, Fla. *Botany.* Le Claire, Ia, March 5, 74. B.S, Iowa State, 97; M.S, Colo. Agr. Col, 04. Student asst. bot, N. Y. Agr. Exp. Sta, Geneva, 99–00; assoc. prof. bot. and hort, Colo. Agr. Col, and asst, Colo. State Exp. Sta, 00–04; *prof. bot. and hort, Florida, and State Exp. Sta, 04–* Fla. Hort Soc. Plant pathology; Corticium; Fusarium.—Fungous diseases of the peach and the plum.

Rolfs, Prof. P(eter) H(enry), Miami, Fla. *Plant pathology and physiology.* Le Claire, Ia, April 17, 65. B.S, Iowa State, 89, M.S, 91. Asst. botanist, Iowa State, 91, entomologist and botanist, 91–92; Fla. Agr. Exp. Sta, 92–98, botanist and horticulturist, 98–99; botanist and bacteriologist, Clemson, and S. C. Agr. Exp. Sta, 99–01; plant pathologist in charge of Subtropical Lab. and Garden, Bur. Plant Indust, U. S. Dept. Agr, Miami, 01–06; *director and horticulturist, Fla. Agr. Exp. Sta, 06–* Prof. biol, Fla. State Agr. Col, 92–95, biol. and hort, 95–99. F.A.A; assoc. Bot. Soc; Ass. Econ. Entom; Pomol. Soc; Fla. Hort. Soc; Iowa Acad; St. Louis Acad; Wash. Entom. Soc; Int. Ass. Bot. Plant pathology and physiology.

Rominger, Dr. Carl (Ludwig), 315 S. Fifth St, Ann Arbor, Mich. *Geology, Paleontology.* Schnaitheim, Germany, Dec. 31, 20. M.D, Tübingen, 42. Asst, Chem. Lab, Tübingen, 42–44; practising physician, 48–75; state geologist, Mich, 70–84. Medal, Acad. Lit et Sci. Regina Boica, Bene Merenti. F.A.A. Geology.

Rood, Prof. Clement E(ugene), Carthage, Ills. *Astronomy.* Mt. Morris, Mich, Oct. 14, 70. Ph.B, Albion, 94, Ph.M, 97; fellow, Chicago, 97–99. Instr. astron. and physics, Albion, 95–97; math. and astron, Beloit, 99–01; acting prof, *Carthage,* 01–02, *principal, Nor. Dept, and prof. physics, 02–* Astron. and Astrophys. Soc. Solar research.

Root, Prof. Oren, Clinton, N. Y. *Mathematics.* Syracuse, N. Y, May 18, 38. A.B, Hamilton, 56, A.M. Tutor math, Hamilton, 60–62; prof. English, Missouri, 66–71; pres, Pritchett, 73–76; *prof. math, Hamilton, 80–* Principal, Acad, Rome, N. Y; supt. schools, Carrollton, Mo. D.D, Rutgers, 90; L.H.D, Union, 95.

Rorer, Prof. Jonathan T(aylor), Central High School, Philadelphia, Pa. *Mathematics, Astronomy.* West Chester, Pa, Aug. 21, 71. A.B, Colorado, 95; Ph.D, Pennsylvania, 01. Instr. math. and English, Colo. Col, 94–95; *math, Central High Sch, Phila,* 95–99, asst. prof, 99–03, *prof, 03–* M.A.A; Astron. and Astrophys. Soc. Mathematical astronomy.—The orbit of Brook's comet, 1898 X.

Rosa, Prof. Edward B(ennett), Bureau of Standards, Washington, D. C. **Physics.* Rogersville, N. Y, Oct. 4, 61. B.S, Wesleyan, 86; fellow, Hopkins, 90–91, Ph.D, 91. Instr. physics, Wisconsin, 90; assoc. prof, Wesleyan, 91–92, prof, 92–02; *physicist, Bur. Standards, 01–* Elliott Cresson medal, Franklin Inst. F.A.A. (sec'y, B, 98); Physical Soc; Elec. Eng. Value of *v,* the ratio of electrical units; dielectric constants of electrolytes; dielectric losses in condensers; forms of alternating curves; respiration calorimeter; equations of electromagnetic waves; testing of induction integrating meters; absolute measurement of capacity and inductance.—Studies in condensers; alternating current delineation and analysis; precision of electric measurements; redetermination of fundamental electrical units.

Rose, Dr. J(oseph) N(elson), 1883 Third St, N. W, Washington, D. C. **Botany.* Union Co, Ind, Jan. 11, 62. A.B, Wabash, 85, A.M, 86, Ph.D, 89. Asst. bot, Wabash, 86–88; bot. asst, U. S. Dept. Agr, 88–96; asst. curator, *Div. Plants, U. S. Nat. Mus,* 96–05, *assoc. curator, 05–* F.A.A; Bot. Soc; Wash. Acad; Wash. Bot. and Biol. Societies. Mexican plants; Umbelliferae; Crasulaceae of North America.—Cactaceae of North America.

Rosenau, Dr. M(ilton) J(oseph), U. S. Public Health and Marine Hospital Service, Washington, D. C. *Pathology, Bacteriology.* Philadelphia, Pa, Jan. 1, 69. M.D, Pennsylvania, 89; Hygienic Inst, Berlin, 92; Pasteur Inst, Paris, 00. Asst. surgeon, U. S. Marine Hosp. Service, 90–95, past asst. surgeon, 95; quarantine officer, San Francisco, 95–98; Santiago and other Cuban ports, 98; *director, Hygienic Lab, U. S. Pub. Health and Marine Hosp. Service, 98–* Prof. bacter, Wash. Post-Grad. Med. Sch, 02. Sanitary attache, Int. Conf. of Am. States, Mex, 02; delegate, Tenth Int. Cong. of Hygiene and Demog; 13th Int. Med. Cong, Paris, 00; mem. Int. Commission to Revise Nomenclature of Causes of Death, Paris, 00; delegate, Int. Sanitary Conf, Wash, 02. M.A.A; Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Pub. Health Ass; Anti-Tuberculosis League; Ass. Mil. Surg. Scientific and practical value of disinfecting substances; viability of the bacillus pestis; serum therapy; bacteriology of communicable diseases; the bacteriology of vaccines; viability of tetanus; the germicidal power of glycerin. —The standard diphtheria antitoxin unit; new laboratory methods.

Rosenheim, Dr. Sylvan, 522 N. Charles St, Baltimore, Md. *Rhinology, Laryngology.* Baltimore, Sept. 16, 74. A.B, Hopkins, 95, M.D, 99. *Asst. laryngol, Hopkins, 02–* Consulting laryngologist, Hebrew Hosp; chief, Laryngol. Clinic, Northeastern Dispensary; asst. surgeon, Baltimore Eye, Ear and Throat Hosp. Ass. Anat; Am. Med. Ass; Md. Med. and Chirurg. Faculty. Tracheal tumors; leukokeratosis buccolis; compression myelitis.—Nasal tumors; tuberculous laryngitis.

Ross, Prof. B(ennett) B(attle), Auburn, Ala. *Chemistry.* Tuskegee, Ala, Dec. 25, 64. A.B, Ala. Polytech, 81, M.S, 86; Göttingen and Berlin. Asst. chemist, Ala. State Lab, 84–87; *prof. chem,* Louisiana, 87–93; *Ala. Polytech, and state*

chemist, Ala, 93– Special chem. work for special agent in charge of nutrition investigations, U. S. Dept. Agr, 95–96. Mem. Committee of Organization, Int. Cong. of Applied Chem, Berlin, 03. M.A.A; Chem. Soc; Ass. Off. Agr. Chemists (pres, 95–96); Ass. Chim. de Suc. et de Dist. de France; Chem. Gesell. Methods of analysis of sugars; methods of analysis of fertilizers.—The chemistry of sugars.

Ross, Dr. Frank E(lmore), International Latitude Observatory, Gaithersburg, Md. *Astronomy.* San Francisco, Cal, April 2, 74. B.S, California, 96, fellow, 97–98, Lick Observatory, 98–99, Ph.D, 01. Teacher math. and physics, Mt. Tamalpais Mil. Acad, Cal, 96–97; asst. prof. math, Nevada, 00; computer for Watson Trustees, 01–02; asst, 'Nautical Almanac' Office, 02–03; research asst, Carnegie Inst, 03–05; *observer, Int. Latitude Observatory, 05–* Astron. and Astrophys. Soc. The general perturbations of the Watson asteroids; definitive orbit of comet 1844 II; the motion of the moon; the orbit of Phoebe; differential equation belonging to a ternary linearoid group.

Ross, Dr. Mary J(ane), Waverly, N. Y. *Medicine, Biology.* Oxford Co, Ont, Jan. 29, 77. A.B, Cornell, 98; A.M, Pennsylvania, 00; Ph.D, Cornell, 02; Med. Col, Hopkins, 02. Asst. instr. histol. and embryol, Cornell, 00–01. Embryology.

Rotch, A(bbott) Lawrence, 235 Commonwealth Ave, Boston, Mass. **Meteorology.* Boston, Jan. 6, 61. B.S, Mass. Inst. Tech, 84; Florence, Paris and Berlin, 75–78. *Director, Blue Hill Meteorol. Observatory, 85–; asst. meteorol, Harvard, 88–* Lecturer, Lowell Inst, Boston, 91, 98; assoc. ed, 'Am. Meteorol. Jour,' 86–96; mem. Jury of Awards, Paris Expos, 89. Chevalier Légion d'honneur, 89; Preussischer Kronen Orden, 02; Rother Adler, 05; hon. A.M, Harvard, 91. Mem. Int. Solar and Aeronaut Committees. F.A.A; Astron. and Astrophys. Soc; Geog. Ass; Am. Acad. (librarian, 99–); Wash. Acad; Boston Soc. Nat. Hist; fel. Royal Meteor. Soc; cor. mem. British Ass; Meteor. Gesell; Verein für Luftschiffahrt; hon. mem. Club Alpin français; Soc. Météor. de France. Physics of the globe.—Exploration of the upper air over the sea and land by means of kites and balloons.

Rotch, Prof. Thomas Morgan, 197 Commonwealth Ave, Boston, Mass. **Pediatrics.* Boston, 49. A.B, Harvard, 70, M.D, 74. *Prof. pediat, Harvard, 93–* Consulting physician, Boston City Hosp; visiting physician, Children's Hosp. and Infants' Hosp. M.A.A; Am. Physicians; Pediat. Soc. (pres.); Am. Med. Ass; Mass. Med. Soc; Suffolk Dist. (Mass.) Med. Soc. (pres.). Children.

Roth, Dr. A(ugustus) H(enry Halyard), Ann Arbor, Mich. *Anatomy, Medicine.* Erie, Pa, Nov. 7, 79. A.B, Michigan, 02, M.D, 03. Demonstrator anat, *Michigan,* 01–03, instr, 03–04, mem. staff in internal med, 02–05, in gynec, 05, *first asst. ophthal, 05–* Ass. Anat; Am. Med. Ass. Neurology; anatomy; internal medicine. —Influence of X-rays on leukemia and Hodgkin's disease.

Roth, Prof. Filibert, University of Michigan, Ann Arbor, Mich. *Forestry.* Wilhelmsdorf, Germany, April 20, 58. B.S, Michigan, 90. Expert, U. S. Dept. Agr, 90–98; asst. prof. forestry, Cornell, 98–01; chief, Div. Forest Reserves, Dept. Interior, 01–03; *prof. forestry, Michigan, 03–* Special agent, U. S. Dept. Agr, 00, 01, 03; forest warden, Mich, 03– M.A.A; Forestry Ass; Soc. Foresters; Soc. Testing Materials; Wash. Acad. Technical properties of timber; forest conditions of Wisconsin.—Cypress; timber physics; grazing on forest reserves.

Rothrock, Prof. D(avid) A(ndrew), 203 S. Walnut St, Bloomington, Ind. *Mathematics.* Milltown, Ind, Jan. 31, 64. A.B, Indiana, 92, A.M, 93; Chicago, 94–95; Ph.D, Leipzig, 98. Instr. *math, Indiana,* 92–95, asst. prof, 95–99, assoc. prof, 99–05, *junior prof, 05–* Math. Soc; Ind. Acad; Math. Verein. The point invariants of the groups of the plane; differential invariants derived from point invariants; the essentials of algebra.—Function theory.

Rothrock, Dr. J(oseph) T(rimble), West Chester, Pa. *Botany, Forestry.* McVeytown, Pa, April 9, 39. B.S, Harvard, 64; M.D, Pennsylvania, 67. *Prof. bot,* Pa. State, 67–79; *Pennsylvania, 79–;* commissioner of forestry, Pa, 93–04. Surgeon, Wheeler Explor. Exped, 73–75. Forestry Ass; Soc. Foresters; Philos. Soc; Pa. Forestry Ass; Phila. Acad. Forestry; botany; medicine. —Forestry for Pennsylvania.

Rotzell, Dr. W(illett) E(nos), 200 S. 40th St, Philadelphia, Pa. *Zoology, Anatomy, Anthropology.* Philadelphia, June 19, 71. M.D, Hahnemann Med. Col, 92. Lecturer bot. and zool, *Hahnemann Med. Col, Phila,* 95–05, *prof. med. bot, 05–* M.A.A; Soc. Nat; Phila. Acad.

Rowe, George H(erbert), Western Electric Co, Chicago, Ills. *Electrical engineering.* Lawton, Mich, Feb. 18, 67. B.S, Michigan, 91. Instr. elec. eng, Michigan, 91–93; prof. physics, Colorado, 93–95, elec. eng, 95–00, dean, Sch. of Applied Science, 01–03; designing engineer, Gen. Elec. Co, 00–01; assoc. prof. elec. eng, Stanford, 03–05; *designing engineer, Western Elec. Co, 05–* Elec. Eng. Wave form variations of long distance lines; variations of core losses with wave form; alternating current laboratory testing; new harmonic analyzer; etc.

Rowe, Prof. J(esse) P(erry), Box 756, Missoula, Mont. *Geology.* Salem Centre, Mich, May 5, 71. B.S, Nebraska, 97, fellow, 97–98, A.M, 03, Ph.D, 06. Asst. geol, Nebraska, 94–98; asst, principal, High Sch, Butte, Mont, 98–99, principal, 99–00; instr. *physics and geol, Montana,* 00–01, *prof, 01–* M.A.A; Nat. Geog. Soc; Mont. Acad. Economic geology; Cretaceous invertebrates.—Analyses and tests of the cements, building stones and clays of Montana.

Rowe, Dr. Stuart H(enry), 840 Washington Ave, Brooklyn, N. Y. *Pedagogy, Psychology.* New

Haven, Conn, May 24, 69. A.B, Yale, 90; fellow, Columbia, 92–94; Ph.D, Jena, 95. Instr. Latin and Greek, Pennington, N. J, 90–92; prof. pedag. and director practise, State Nor. Sch, Mankato, Minn, 95–98; supervising principal, Lovell Sch. Dist, New Haven, 98–04; lecturer pedag, Yale, 01–04; *head, Dept. Psychol. and Pedag, Brooklyn Training Sch. for Teachers, 04–* Psychol. Ass; Nat. Educ. Ass. (v. pres, Child-study Dept, 02–); Am. Inst. (v. pres, 02–); Soc. Sci. Educ. Hygiene and child-study in methods of school procedure; lighting of schoolrooms.—Educational principles.

Rowland, Prof. Arthur J(ohn), 4510 Osage Ave, Philadelphia, Pa. *Electrical engineering.* Cincinnati, O, Feb. 19, 67. Pennsylvania, 83–84; Hopkins, 84–86, 90–93. Instr. *elec. eng, Drexel Inst, Phila, 93–94, prof, 94–* Chairman, Jury of Awards, Dept. of Lights and Lighting, Nat. Export Expos. Elec. Eng; Electrochem. Soc; Franklin Inst. Lights; lighting and illumination.

Rowlee, Prof. W(illard) W(infield), 11 East Ave, Ithaca, N. Y. **Botany.* Fulton, N. Y, Dec. 15, 61. B.L, Cornell, 88, Sc.D, 93. Instr. *bot, Cornell, 88–93, asst. prof, 93–* Supt, Univ. grounds, Cornell, 95– F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; Pa. Forestry Ass. Flora of the United States; North American willows; comparative anatomy of woods.

Roy, Prof. Arthur J(ay), 268 Yates St, Albany, N. Y. *Astronomy.* Clyde, N. Y, Nov. 7, 69. C.E, Union, 93, A.M, 97. *First asst, Dudley Observatory, Albany, 93–* M.A.A. Positional astronomy.—Perturbations of an asteroid; a zone catalogue of stars.

Royce, Prof. Josiah, 103 Irving St, Cambridge, Mass. **Philosophy.* Grass Valley, Cal, Nov. 20, 55. A.B, California, 75; Leipzig and Göttingen, 75–76; fellow, Hopkins, 76–78, Ph.D, 78. Instr. English lit. and logic, California, 78–82; asst. prof. philos, *Harvard, 82–92, prof. hist. of philos, 92–* Philos. Ass; Psychol. Ass. Metaphysics; logical problems in relation to metaphysics; ethics.—Logical theory.

Rucker, Miss Augusta, University of Texas, Austin, Tex. *Zoology.* Paris, Tex, May 24, 73. A.B, Texas, 96, fellow, 96–97, A.M, 99. Tutor biol, *Texas, 97–99, instr, 99–00, zool, 00–* M.A.A; fel. Tex. Acad. Peripatus eisenii; the Texan Koenenia; Koenenia.—The anatomy of Koenenia and its position among the Arachnida.

Ruedemann, Dr. R(udolf), State Hall, Albany, N. Y. *Paleontology, Geology.* Georgenthal, Germany, Oct. 16, 64. Ph.D, Jena, 87; Strasburg, 89. Asst. geol, Strasburg, 87–92; teacher, high schools, Lowville and Dolgeville, N. Y, 92–99; *asst. state paleontologist, N. Y, 99–* Walker prize, Boston Soc. Nat. Hist, 01. M.A.A. Fossils and geology of lower Silurian; guelph beds of New York; Cambrian and lower Silurian graptolites of New York.—Cephalopods of Champlain Basin.

Ruediger, Dr. Gustav F(erdinand), 299 S. Hermitage Ave, Chicago, Ills. *Pathology, Bacteriology.* Fountain City, Wis, June 9, 76. B.S, Wisconsin, 00; M.D, Rush Med. Col, 03. *Assoc, Mem. Inst. for Infectious Diseases, Chicago, 03–* Ass. Path. and Bact; Am. Med. Ass; Chicago Path. Soc; Chicago Med. Soc. Streptococcus infections.—Mechanism of streptococcus infection.

Runkle, Prof. Erwin W(illiam), State College, Pa. *Psychology.* Lisbon, Ia, May 20, 69. A.B, Western, 90; Ph.D, Yale, 93; hon. fellow, Clark, 99. Lecturer hist. philos, Yale, 92–93; *prof. psychol. and ethics, Pa. State, 93–* Librarian, Carnegie Library, Pa. State, 04– Psychol. Ass. The phenomenalism of Berkeley.—Psychology of confession; psychology of prejudice and prejudgment.

Running, Dr. Theodore R(udolph), 1108 Prospect St, Ann Arbor, Mich. *Mathematics.* Colfax, Wis, Dec. 14, 66. B.S, Wisconsin, 92, fellow, 95–97, M.S, 96, Ph.D, 99. Prof. math, physics and chem, St. Olaf, 93–95; asst. math, Wisconsin, 97–99, instr, 99–00; prof. math. and natural science, St. Olaf, 00–03; *instr. math, Michigan, 03–* M.A.A; Math. Soc.

Runyan, E(lmer) G(ardner), Cor. Tenth and D Sts, N. W, Washington, D. C. *Chemistry.* Disco, Mich. Ph.C, Michigan, 86; B.S, Columbian, 89. Asst. chemist, Bur. Chem, U. S. Dept. Agr, 90–03; *inspector gas and meters for D. C, 03–* Chem. Soc; Soc. Chem. Indust; Nat. Geog. Soc. Agricultural chemistry; method of fertilizer analysis.—Gas analysis; photometry.

Rusby, Prof. Henry H(urd), 776 DeGraw Ave, Newark, N. J. **Botany, Materia medica.* Franklin, N. J, April 26, 55. M.D, N. Y. Univ, 84. Prof. bot, physiol, mat. med. and dean, Faculty, N. Y. Col. Pharmacy, 88–05; mat. med, Univ. and Bellevue Hosp. Med. Col, 97–02. Scientific director and curator of econ. collection, N. Y. Bot. Garden; agent for Smithsonian Inst. bot. exploration of N. Mex. and Ariz, 80–83; explored Madeira River Valley and Bolivia, S. A, 85–87, delta of Orinoco, 96; prof. principles of stock feeding, Am. Vet. Col, 89–96; mem. Committee of Revision, U. S. Pharmacopœia, 90–05; on med. flora, Pan-Am. Med. Cong. Medal, Centennial Expos, 76. F.A.A; Pharmaceut. Ass; fel. N. Y. Acad; N. Y. Sci. Alliance (mem. Council); Torrey Bot. Club (pres.); hon. mem. Mex. Inst. Med. Nac; cor. mem. Gt. Britain Pharmaceut. Soc. South American flora; vegetable materia medica.

Russell, Prof. H(arry) L(uman), Madison, Wis. **Bacteriology.* Poynette, Wis, March 12, 66. B.S, Wisconsin, 88, fellow, 88–90, M.S, 90; Berlin, 90; Pasteur Inst, Paris, and Naples Zool. Sta, 90–91; fellow, Chicago, 92–93; Ph.D, Hopkins, 92. Asst. prof. *bacter, Wisconsin, 93–96, prof, 96–; bacteriologist, Wis. Agr. Exp. Sta, 93–; director, Wis. State Hygienic Lab, 03–* Consulting bacteriologist, Wis. Board of Health, 94–; bacteriologist, Wis. Live Stock

Sanitary Board, 01; lecturer bacter, Dairy Sch, Minnesota, 01– F.A.A; Soc. Bact; Nat. Cent. States; Pub. Health Ass. (chairman, Lab. Sect, 03); Wash. Acad; Wis. Acad. Dairy bacteriology; bovine tuberculosis; bacterial plant diseases; pasteurization of milk.—The curing of cheese.

Russell, Dr. Henry N(orris), 79 Alexander St, Princeton, N. J. *Astronomy.* Oyster Bay, N. Y, Oct. 25, 77. A.B, Princeton, 97, fellow, 97–98, 98–00, A.M, 98, Ph.D, 00. Carnegie research asst, Cambridge Observatory, 03–05; *instr. astron, Princeton, 05–* Astron. and Astrophys. Soc. Binary stars; atmosphere of Venus; perturbation of Eros by Mars.—Stellar parallax.

Russell, Prof. Israel C(ook), 1703 Hill St, Ann Arbor, Mich. **Geology, Physical geography.* Garrattsville, N. Y, Dec. 10, 52. B.S, C.E, N. Y. Univ, 72; Sch. of Mines, Columbia, 73–74. Asst. prof. geol, Columbia, 75–76; *geologist, U. S. Geol. Surv, 80–; prof. geol, Michigan, 92–* LL.D, N. Y. Univ. F.A.A. (v. pres, 04); Geol. Soc; Geog. Ass; Am. Acad; Nat. Geog. Soc; Am. Alpine Club; hon. mem. Appalachian Mt. Club; Phila. Geog. Soc; Royal Scottish Geog. Soc. Pleistocene geology; physical geography. —Glaciers of Alaska; volcanic eruptions of Martinique and St. Vincent; surface geology and geography of Oregon, Washington, Michigan, etc.

Russell, Dean James E(arl), Teachers College, Columbia University, New York, N. Y. *Education.* Hamden, N. Y, July 1, 64. A.B, Cornell, 87, grad. student, 91–93; Jena, 93–94; Leipzig, 94–95, Ph.D, 94. Teacher and principal of secondary schools, 87–93; *prof.* philos. and pedag, Colorado, 95–97; *hist. of educ, Teachers Col, Columbia, 97–, dean, 98–, Barnard prof. educ, Columbia, 04–* Special agent, U. S. Bur. Educ, 93–94; European Commissioner for Univ. of State of N. Y, 93–95. F.A.A; Psychol. Ass; Nat. Council Educ. (director). Foreign schools systems; university extension in England and America; education in Puerto Rico and the South.—Technical education.

Russell, Prof. John E(dward), Williamstown, Mass. *Philosophy.* Walpole, N. H, Jan. 8, 48. Dartmouth, 69–71; A.B, Williams, 72; Andover Theol. Sem, 73–75; B.D, Yale, 80; Berlin, 83–84. *Mark Hopkins prof. philos, Williams, 89–* Prof. Biblical theol, Divinity Sch, Yale, 85–89; lecturer hist. of philos, Williams, 85–86; philos. of relig, Divinity Sch, Harvard, 93–94. Philos. Ass. The philosophy of religion; logic; the theory of knowledge.

Rutherford, Prof. E(rnest), McGill University, Montreal, Can. *Physical science.* Nelson, New Zealand, Aug. 30, 71. A.M, New Zealand, 94, Sc.D, 01; A.B, Trinity Col, Cambridge, England, 97. *Macdonald prof. physics, McGill, 98–* Silliman lecturer, Yale, 05. Rumford medal, Royal Soc, 04. Physical Soc; Philos. Soc; fel. Can. Royal Soc; fel. Royal Soc. Electrical waves; ionization of gases; radio-active substances and their radiation.—Transformation of radio-active bodies; atmospheric electricity.

Ruttan, Prof. R(obert) F(ulford), 1018 Sherbrooke St, Montreal, Can. *Chemistry.* Newburg, Ont, July 15, 57. A.B, Toronto, 81; M.D, M.C, McGill, 84; Berlin, 85–86. *Prof.* pract. chem, *Med. Faculty, McGill, 94–02, chem, 02–* Fellow of Corporation, McGill, Registrar of Faculty, 91–02; consulting chemist, Provincial Board of Health. Fel. Can. Royal Soc. (pres, Chem. Sect, 02); Ont. Col. Physicians and Surg; British Ass; Chem. Gesell. Organic bases; artificial alkaloids; medical chemistry; water analysis; artificial fats; products of distillation of pine and spruce.

Rutter, Dr. Frank R(oy), U. S. Department of Agriculture, Washington, D. C. *Economics.* Baltimore, Md, March 15, 74. A.B, Hopkins, 94, fellow, 96–97, Ph.D, 97. Proof-reader, U. S. Geol. Surv, 98–99; asst, Sect. For. Markets, *U. S. Dept. Agr, 99–02, asst. chief, Div. For. Markets, 02–* Lecturer econ, Columbian, 02; Iowa, 04. F.A.A. (sec'y, I, 02); Econ. Ass. (mem. Council); Statist. Ass; Nat. Geog. Soc. Commerce and commercial statistics.—Sugar production and trade.

Ryan, Prof. Harris J(oseph), Stanford University, Cal. **Electrical engineering.* Powells Valley, Pa, Jan. 8, 66. Baltimore City Col, 79–80; Lebanon Valley, 80–82; M.E, Cornell, 87. Instr. physics, Cornell, 88–89, *prof. elec. eng, 89–05; Stanford, 05–* Judge, Board of Awards, Elec. Dept, Columbian Expos, 93. Delegate of U. S. Govt, Int. Elec. Cong, St. Louis, 04. F.A.A; Elec. Eng; Mech. Eng. Methods for electrical engineering tests and measurements.—Law governing relation of size and separation of conductors and electric pressure at which corona and power waste appears in high pressure power transmission lines; dielectric strength, etc, of insulators for practical requirements at high pressure in electrical engineering apparatus.

Ryan, Dr. L(eon) A(lonzo), 3607 Sansom St, Philadelphia, Pa. *Chemistry.* La Grange, O, 69. Ph.B, Oberlin, 93; Ph.D, Pennsylvania, 97. *Asst. demonstrator chem, Med. Dept, Pennsylvania, 97–* Derivatives of pyroracemic acid; retention of arsenic by animal charcoal; volumetric testing for glucose; volume of nitrogen evolved from one gram of urea by the action of alkaline sodium hypobromid solution.

Rydberg, Dr. P(er) A(xel), New York Botanical Garden, New York, N. Y. **Botany.* Odh Parish, Sweden, July 6, 60. Grad, Royal Gymnasium, Skara, Sweden, 81; B.S, Nebraska, 91, A.M, 95; fellow, Columbia, 96–97, Ph.D, 98. Instr. math. and nat. science, Luther Acad, Wahoo, Nebr, 84–90, 91–93; Upsala Col, New Orange, N. J, 95–96, 97–99; *asst. curator, N. Y. Bot. Garden, 99–* Field agent, Div. of Bot. and Agrost, U. S. Dept. Agr, summers, 91–96; N. Y. Bot. Garden, summers, 97, 00– F.A.A; assoc.

Bot. Soc; Torrey Bot. Club. Flora of the Rocky Mountain region.—Id; Saxifragaceae; Rosaceae.

Ryland, Prof. Garnett, Georgetown, Ky. *Chemistry.* King and Queen Co, Va, Dec. 17, 70. A.M, Richmond, 92; Ph.D, Hopkins, 98. Instr. *chem,* Maine, 98–99, asst. prof, 99–01; *prof,* Converse, 01–03; *Georgetown (Ky.), 03–* Chem. Soc. Boiling-points of mixtures of liquids.

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Sabin, A(lvah) H(orton), 432 Sanford Ave, Flushing, N. Y. **Chemistry.* Norfolk, N. Y, April 9, 51. B.S, Bowdoin, 76, M.S, 79. Prof. chem. and physics, Ripon, 76–80; chem, Vermont, 80–86; chemist, Edward Smith and Co, N. Y, 88–05. State chemist, Vt, 82–86; lecturer paints and varnishes, N. Y. Univ, 97–; Mass. Inst. Tech, 98–04; Michigan, 98–02; lecturer, Purdue, 99, 02; Wisconsin, 01–02. Chem. Soc; Soc. Chem. Indust; Mech. Eng; Civil Eng; Naval Archit. and Marine Eng; Soc. Testing Materials; London Soc. Arts. Process by which all sugar of milk is produced; corrosion of iron and steel; drying oils; technology of paints and varnishes.—Historical and scientific matters connected with the manufacture of varnishes.

Sabin, Dr. Florence R(ena), 1329 Mt. Royal Ave, Baltimore, Md. **Anatomy.* Central City, Colo, Nov. 9, 71. B.S, Smith, 93; M.D, Hopkins, 00, fellow, 01. Teacher math, Wolfe Hall, Denver, Colo, 94–95; asst. zool, Smith, 96; *anat, Hopkins,* 02, assoc, 02–05, *assoc. prof, 05–* Tracts in the medulla oblongata; lymphatic system.—Development of the lymph glands.

Sabine, Prof. W(allace) C(lement), 40 Shepard St, Cambridge, Mass. **Physics.* Richwood, O, 68. A.B, Ohio State, 86; A.M, Harvard, 88. Asst. *physics, Harvard,* 89–90, instr, 90–95, asst. prof, 95–05, *prof, 05–* F.A.A; Physical Soc; Am. Acad. Oscillatory electric discharges; architectural acoustics; color.—Architectural acoustics; optics.

Sachs, Dr. B(ernard), 21 E. 65th St, New York, N. Y. *Medicine, Nervous and mental diseases.* Baltimore, Md, Jan. 2, 58. A.B, Harvard, 78; M.D, Strasburg, 82; Berlin, Vienna, Paris and London. Prof. nervous and mental diseases, N. Y. Polyclinic, to 04. Neurologist, Mt. Sinai Hosp. and Home; alienist and neurologist, Bellevue Hosp; consulting physician, Manhattan State Hosp. F.A.A; Am. Physicians; Neur. Ass; N. Y. Neur. Soc; N. Y. Acad. Med; N. Y. County and State Med. Associations; hon. mem. Moscow Neur. Soc. Nervous diseases of children; infantile palsies; amaurotic family idiocy; epilepsy; syphilis of central nervous system; vasomotor disorders.

Sadtler, Prof. Sam(ue)l P(hilip), N. E. Corner Tenth and Chestnut Sts, Philadelphia, Pa. **Chemistry.* Pinegrove, Pa, July 18, 47. A.B, Pa. Col, 67, A.M, 70; B.S, Harvard, 70; Ph.D, Göttingen, 71. *Prof.* chem, Pa. Col, 71–74; org. and indust. chem, Pennsylvania, 74–91; *chem, Phila. Col. Pharmacy, 78–* Mem. Committee of Revision, U. S. Pharmacopœia, 00–05. LL.D, Pa. Col, 02. F.A.A; Chem. Soc; Soc. Chem. Indust; Electrochem. Soc; Philos. Soc. (sec'y, 98–02); fel. London Chem. Soc; Chem. Gesell. Industrial and applied organic chemistry.

Safford, Dr. F(rederick) H(ollister), College Hall, University of Pennsylvania, Philadelphia, Pa. *Mathematics.* Lawrence, Mass, June 20, 66. B.S, Mass. Inst. Tech, 88; A.M, Harvard, 94, Ph.D, 97; hon. fellow, Clark, 01–02. Instr. math. and science, Brewster Acad, 88–93; instr. *math,* Harvard, 95–99; asst. prof, Cincinnati, 99–01; *instr, Pennsylvania, 02–* M.A.A; Math. Soc. Cyclids of revolution.—Orthogonal surfaces.

Safford, Dr. Ja(me)s M(errill), 301 S. Ervay St, Dallas, Tex. **Geology, Natural history, Chemistry.* Zanesville, O, Aug. 13, 22. A.B, Ohio (Athens), 44, A.M, 48; Ph.D, Yale, 66; M.D, Nashville, 72. Prof. nat. hist. and geol, Cumberland, 48–72; *geol, Vanderbilt,* 75–00, *emer. prof, 00–* State geologist, Tenn, 54–60, 71–99; mem. State Board of Health, Tenn; judge, Centennial Expos, 76; U. S. special agent, Tenth Census, 80. Geol. Soc. Geology; water supply of Memphis; geology of Tennessee; cotton production of Tennessee.—Certain local surveys in Tennessee.

Sage, Jno. (John) H(all), Portland, Conn. *Ornithology.* Portland, April, 20, 47. Pub. schools. *Banker, 73–* Curator, Hartford Sci. Soc. Hon. M.S, Trinity (Conn.), 01. M.A.A; fel. Ornith. Union (sec'y, 89–); N. Y. Linnean Soc; Wash. Biol. Soc; Conn. Hist. Soc.

Sailer, Dr. Joseph, 248 S. 21st St, Philadelphia, Pa. *Medicine.* Philadelphia, Oct. 1, 67. Ph.B, Pennsylvania, 86, M.D, 91; Paris, Zürich and Vienna, 93–95. Asst. demonstrator path, *Pennsylvania,* 98–99, *assoc. clin. med, 99–; prof. diseases of stomach and intestines, Phila. Polyclinic, 02–* Asst. ed, 'Phila. Med. Jour.' Ass. Path. and Bact; Neur. Ass; Phila. Acad; Phila. Col. Physicians. Clinical medicine; pathology.

St. John, Prof. Cha(rle)s E(dward), 125 Elm St, Oberlin, O. *Physics, Astrophysics.* Allen, Mich, March 15, 57. B.S, Mich. Agr. Col, 88; Michigan, 90–92; Harvard, 92–94, A.M, 93; Berlin, 94–95; Ph.D, Harvard, 95. Instr. *physics,* Mich. Nor. Col, 86–92; Michigan, 96–97; assoc. prof, *Oberlin,* 97–99, *prof, 99–* F.A.A; Physical Soc. Electrical waves in iron wires; the emission of light at high temperatures.—The enhancement and depreciation of spectral lines in an electric spark; the characteristics and constitution of the electric spark under standard and varying conditions.

St. John, H(owell) W(illiams), 194 Farmington Ave, Hartford, Conn. *Vital statistics.* Newport, R. I, 34. Ph.B, Yale, 55. *Actuary, Aetna Life Ins. Co, 67–* Civil engineer in location and construction of railways. Int. Cong. of Actuaries, Brussels, 93 (mem. Permanent Com-

mittee). Math. Soc; Actuarial Soc. (pres, 93–94); Statist. Ass. Mortality of insured lives (male and female); mortality with relation to duration of insurance and residence.

Sajous, Dr. C(harles) E(ucharist) de M(édicis), 2043 Walnut St, Philadelphia, Pa. *Medicine, Zoology.* At sea, under American flag, Dec. 13, 52. France; California; M.D, Jefferson Med. Col, 78; A.B, France, 92. Prof. anat. and physiol, Wagner Inst, 81; lecturer, Jefferson Med. Col, 83–91; prof. and dean, Medico-Chirurg. Col, 97. Ed, 'Annual of Universal Med. Sciences,' 88–96; 'Cyclop. of Practical Med,' 97–05. Officier d'Acad, 89; Order of Leopold, Belgium, 90; Chevalier Légion d'honneur, 92. Philos. Soc; Laryngol. Ass. (v. pres, 88); Am. Med. Editors' Ass. (pres, 03); Phila. Acad; Phila. Col. Physicians; Phila. Laryngol. Soc. (pres, 85); hon. mem. various foreign societies. Diseases of the respiratory passages; applied therapeutics; physiology and pathology of the internal secretions.

Salant, Dr. William, 36 W. 114th St, New York, N. Y. *Physiology.* Wilno, Russia, Feb. 2, 70. B.S, Cornell, 94; M.D, Columbia, 99. *Asst.* physiol, Med. Col, Cornell, 02–03; *physiol. chem, Columbia, 05–* Fellow, Rockefeller Inst. for Med. Research, 01– Soc. Exp. Biol. and Med; Soc. Physiol. Chem. Effect of alcohol on muscle; effects of strychnin on nephrectomized rabbits; influence of nephrectomy on absorption and on coagulation of the blood; effect of alcohol on biliary secretions; toxicity of bile; etc. —Effect of alcohol on biliary secretions.

Salisbury, Prof. R(ollin) D, University of Chicago, Chicago, Ills. **Geology.* Spring Prairie, Wis, Aug. 17, 58. Ph.B, Beloit, 81, A.M, 84. *Prof.* geol, Beloit, 84–91; *Wisconsin,* 91–92; *geog. geol, Chicago, 92–, dean, Ogden Sch. of Sci, 97–* Asst, U. S. Geol. Surv, 83–; N. J. Geol. Surv, 91–; assoc. ed, 'Jour. of Geol,' 92– LL.D, Beloit, 04. F.A.A. (sec'y, E, 92); Geol. Soc; Geog. Ass. Geographic and glacial geology.—Glacial studies in western mountains; glacial and coastal plain work in New Jersey.

Salmon, Dr. D(aniel) E(lmer), The Iowa, Washington, D. C. *Comparative pathology, Sanitary medicine.* Mt. Olive, N. J, July 23, 50. B.V.S, Cornell, 72, D.V.M, 76. Non-res. lecturer, Georgia, 77; investigator animal diseases, U. S. Dept. Agr, 79–83, chief, Vet. Div, 83–84, Bur. Animal Indust, 84–05. F.A.A; Vet. Med. Ass. (mem. Executive Committee); Pub. Health Ass. (chairman, Committee on Animal Diseases and Animal Foods); Wash. Acad; Wash. Biol. Soc; hon. mem. Royal Agr. Soc; hon. assoc. Royal Col. Vet. Surg; hon. mem. London Epidemiol. Soc; assoc. mem. Soc. cent. de Méd. vet. de France. Animal pathology, including bacteriology and zoology.—Tuberculosis; hog cholera; Texas fever.

Sammis, J(ohn) L(angley), 307 E. Springfield Ave, Champaign, Ills. *Chemistry.* Winona, Minn, Jan. 1, 73. B.S, Illinois, 97, M.S, 99. Asst. *chem, Illinois,* 97–99, *instr, 99–* Action of mercaptids on quinones; dietetics.—Substituted stibins; substituted malonic esters.

Sanchez, A(lfred) M(arcus), Bureau of Agriculture, Manila, P. I. *Agriculture.* Mesilla, N. M, Oct. 31, 80. B.S, N. Mex. Agr. Col, 01, M.S, 02. Asst, Soil Surv, U. S. Dept. Agr, 02–03; *soil physicist, Bur. Agr, Manila, 04–* Soil investigations.—Tobacco soils of the Philippine Islands.

Sanderson, Prof. E(zra) Dwight, Durham, N. H. *Entomology.* Clio, Mich, Sept. 25, 78. B.S, Mich. Agr. Col, 97; B.S.A, Cornell, 98. Asst. state entomologist, Md, 98; asst, Div. Entom, U. S. Dept. Agr, summer, 99; entomologist, Del. Agr. Exp. Sta, 99–03; assoc. prof. zool, Delaware, 01–02; state entomologist, Tex, and prof. entom, Tex. Agr. and Mech. Col, 03–04; *prof. zool. and entom, N. H. Col, 04–* F.A.A; Ass. Econ. Entom; Wash. Entom. Soc. Economic entomology; coleopterous larvae.—Chrysomelid larvae.

Sandsten, Prof. E(mil) P(eter), University of Wisconsin, Madison, Wis. *Horticulture, Entomology.* Nybro, Sweden, Sept. 15, 68. Sch. of Agr, Minnesota, 88–91, B.S, Minnesota, 95, M.S, 98; Ph.D, Cornell, 03. Botanist, Am. Grass Twine Co, St. Paul, 99–00; assoc. prof. hort, Md. Agr. Col, 01–02; *prof. hort. and econ. entom, Wisconsin, 02–* M.A.A; Soc. Hort. Sci; Pomol. Soc; Breeders' Ass. Physiological botany; pollination; self-sterility.—Conditions which affect the production and fertility of pollen.

Sanford, Prof. Edmund C(lark), 24 Richards St, Worcester, Mass. **Psychology.* Oakland, Cal, Nov. 10, 59. A.B, California, 83; fellow, Hopkins, 87–88, Ph.D, 88. Teacher, Oahu Col, H. I, 83–85; instr. psychol, Hopkins, 88; *Clark,* 89–92, asst. prof, 92–01, *prof. exp. and comp. psychol, 01–* Joint ed, 'Am. Jour. Psychol,' 95– F.A.A; Soc. Nat; Psychol. Ass. (pres, 02). Experimental psychology.—Comparative psychology.

Sanford, Prof. Fernando, Stanford University, Cal. **Physics.* Taylor, Ills, Feb. 12, 54. B.S, M.S, Carthage, 79; Berlin, 86–88. Prof. science, Mt. Morris, 79–82; supt. schools, Ogle Co, Ills, 82–86; instr. physics and chem, High Sch, Englewood, Ills, 88–90; *prof.* physical science, Lake Forest, 90–91; *physics, Stanford, 91–* Engineer, railroad construction, 79, 80. F.A.A; Physical Soc; Bunsen Gesell. The electrical conductivity of wires in different dielectrics; electric photography in alternating condenser field; an acoustic pyrometer; an undescribed form of radiation; a possible change of weight in chemical reactions.—The emission of ultra-violet radiation in an alternating condenser.

Sanger, Prof. Charles R(obert), Cambridge, Mass. **Chemistry.* Boston, Mass, Aug. 31, 60. A.B, Harvard, 81, A.M, 82, Ph.D, 84. Asst. *chem,* Harvard, 81–82, 84–86; prof, U. S. Naval Acad, 86–92; Washington (St. Louis), 92–99; asst.

prof, *Harvard*, 99–03, *prof. and director, Chem. Lab, 03–* Chem. Soc; fel. Am. Acad; Soc. Chem. Indust; Chem. Gesell. Analytical and technical chemistry.

Santayana, Prof. George, 60 Brattle St, Cambridge, Mass. **Philosophy.* Madrid, Spain, Dec. 16, 63. A.B, Harvard, 86, A.M, Ph.D, 89. Instr. *philos, Harvard*, 89–98, *asst. prof, 98–* Philos. Ass; Psychol. Ass.

Sardeson, Dr. F(rederick) W(illiam), 206 Pleasant St, Minneapolis, Minn. *Geology, Paleontology.* Owego Mills, Wis, Feb. 22, 66. B.L, Minnesota, 91, M.S, 92; Ph.D, Freiburg, 95. Instr. paleont, *Minnesota*, 92–94, 98–05, *asst. prof. geol, 05–* With U. S. Geol. Surv, 89, 91; Baden Geol. Surv, 94–95. Mem. Int. Geol. Cong, 94. M.A.A; Geol. Soc; Minn. Acad. Stratigraphic geology of Minnesota; fauna of Saint Peter sandstone; fossil corals; fossil Gastropoda; Crinoidea; glacial deposits, especially loess; relation of paleontologic evidence to the theory of evolution; natural sciences versus religion. —Paleontology and evolution; stratigraphic and paleontologic relations in the northwest.

Sargent, Prof. Charles Sprague, Brookline, Mass. **Botany, Dendrology.* Boston, Mass, April 24, 41. A.B, Harvard, 62. *Director, Arnold Arboretum, 72–, Arnold prof. arboriculture, Harvard, 79–* Mem. Park Commission, Brookline; ed, 'Garden and Forest,' 87–97. LL.D, Harvard, 01. Nat. Acad; Soc. Nat; Philos. Soc; fel. Am. Acad; Mass. Soc. Prom. Agr. (pres.); Phila. Acad; St. Louis Acad; hon. for. mem. Royal Hort. Soc; for. mem. London Linnaean Soc; hon. mem. British Arbor. Soc; hon. mem. Scottish Arbor. Soc; hon. mem. Dendrol. Gesell; Soc. bot. de France; for. mem. Soc. nat. d'Agr. de France. Dendrology.

Sargent, Dr. D(udley) A(llen), 27 Everett St, Cambridge, Mass. *Physical education.* Belfast, Me, Sept. 28, 49. A.B, Bowdoin, 75; M.D, Yale, 78; A.M, Bowdoin, 87. Instr. gymnastics, Bowdoin, 69–75; Yale, 72–78, prof. physical training, 79–90; *director, Hemenway Gym, Harvard, and Dept. of Physical Educ, Nor. Sch, Cambridge, Mass, 90–* Chairman, Commission on Sch. Hygiene, Pub. Health Ass, 83–84; Commission Dept. Health, Social Science Ass, 83–85; Commission on Physical Educ, Columbian Expos, 93; mem. Observation Committee, N. Am. Gym. Union, 93, 97, 00. Hon. Sc.D, Bowdoin, 94. F.A.A; Ass. Adv. Physical Ed. (past. pres.); Am. Acad. Med; Acad. Polit. and Social Sci; Statist. Ass; Boston Soc. Med. Sci; Boston Nat. Hist. Soc. Anthropometry; applied anatomy; the philosophy of exercise and the general theory and practise of physical training.—Invention of new apparatus and inquiries into the effects of different physical exercises upon American youth of both sexes.

Sargent, F(rederick) L(eRoy), 27 Everett St, Cambridge, Mass. *Botany.* Boston, Mass, Dec. 25, 63. Col. City of N. Y, 79–82; Lawrence Sci. Sch, Harvard, 83–86. Head, Dept. Bot. Wisconsin, 86–87; instr. bot, Med. Sch, Boston, 94–95; asst, Bot. Mus, Harvard, 02–04; *instr. domestic hygiene, Sargent Sch. for Physical Educ, 05–* Teacher bot, Summer Sch, Harvard, 86; pres, Nat. Flower Convention, Asheville, N. C, 96. Columbine Ass. (pres.). Economic botany.—Economic study of food.

Saunders, Dr. A(rthur) P(ercy), Clinton, N. Y. **Chemistry.* London, Can, March 22, 69. A.B, Toronto, 90; Ph.D, Hopkins, 94; Göttingen, 96; Berlin, 97; hon. fellow, Cornell, 99. Instr. *chem*, Wisconsin, 94–96; asst. prof, *Hamilton*, 00, *prof, 01–* Research asst, McGill, 98. F.A.A; Chem. Soc; Electrochem. Soc. Chlorids of orthosulphobenzoic acid; double salts; allotropic forms of selenium; reaction velocities.

Saunders, Dr. Cha(rle)s E(dward), Ottawa, Can. *Chemistry, Agriculture.* London, Can, Feb. 2, 67. A.B, Toronto, 88; fellow, Hopkins, 90–91, Ph.D, 91. Prof. chem. and geol, Central Univ. of Ky, 92–93; *cerealist, Govt. Exp. Farm, Ottawa, Can, 03–* F.A.A. Double halides; hybridization in the Pyrus, Berberis and Triticum families.—Cereal breeding.

Saunders, Prof. D(e) A(lton), Waco, Texas. *Botany.* Alfred, N. Y. June 13, 70. Alfred, 86–91; A.B, Nebraska, 93, A.M, 94. Teacher, High Sch, Lincoln, Nebr, 93–95, instr. biol, 95–96; *prof. bot, S. Dak. Agr. Col, 96–; plant breeder, U. S. Dept. Agr.* Bot. Cent. States. Algae.—Id; varieties of cotton to resist boll-weevil depredations.

Saunders, Dr. F(rederick) A(lbert), 805 Comstock Ave, Syracuse, N. Y. **Physics.* London, Can, Aug, 75. A.B, Toronto, 95; fellow, Hopkins, 98–99, Ph.D, 99. Instr. *physics*, Haverford, 99–01; *Syracuse*, 01–02, assoc. prof, 02–05, *prof, 05–* M.A.A; Physical Soc. The radiation of a black body; radiation; spectra of alkali metals; new series in spectra of Ca, Mg, Zn and Cd.—Studies of arc and spark spectra.

Saunders, Prof. Samuel J, 44 Williams St, Clinton, N. Y. *Physics, Astronomy.* Nanticoke, Ont, Aug. 3, 62. A.B, Toronto, 88; fellow, Cornell, 88–89, Sc.D, 94; A.M, Toronto, 94. Instr. physics, Cornell, 89–92; *prof. physics and astron, Hamilton, 92–* Prof. physics, Summer Sch, Wisconsin, 91; Cornell, 92. Physical Soc. Electrical waves; penetration by X-rays.—The relative value of Holtz machine and induction coil in X-ray work.

Saunders, Dr. William, C. M. G, Central Experimental Farm, Ottawa, Can. *Agriculture, Horticulture, Arboriculture.* Crediton, Devonshire, England, June 16, 36. Pub. schools; private study with chemist. Prof. *mat. med, Western Univ, Ont*, 82–86, *emer. prof, 86–; director, Exp. Farms, 86–* Ed, 'Can. Entomologist,' 74–86; mem. Ont. Agr. Commission, 81; Dominion analyst, 82–86; commissioner, Can. Commission, Columbian Expos, 93; Paris Expos, 00. LL.D, Queens (Can.), 96; Toronto, 03. F.A.A. (sec'y, A, 81, gen. sec'y, 82); Soc. Prom. Agr. Sci; Can. Royal Soc; Montreal Nat. Hist. Soc; London Linnean Soc; London Chem. Soc; London Entom.

Soc; cor. mem. Royal Bot. Soc; hon. mem. Gt. Britain Pharmaceut. Soc. Agriculture; horticulture; forestry; entomology.—Testing varieties of cereals best adapted to the climates of Canada; cross-breeding of cereals to produce hardy, early-ripening and rust-resistant sorts; cross-breeding of fruits to produce hardier sorts for Canadian northwest; testing hardy forms of trees and shrubs; action of fertilizers on important farm crops.

Saunders, William Edwin, 240 Central Ave, London, Can. *Ornithology, Oology, Botany.* London, Aug. 16, 61. Phila. Col. Pharmacy, 80–83. Chairman, Civic Committee on Hort, London, Can, 02–03. Fel. Ornith. Union; Ont. Entom. Soc. (sec'y, 93–05); McIlwraith Ornith. Club (sec'y, 99–05). Ornithology.

Saurel, Dr. Paul (Louis), 17 Lexington Ave, New York, N. Y. **Mathematics, Physics.* New York, May 10, 71. B.S, Col. City of N. Y, 90; Cornell, 90–92; Sc.D, Bordeaux, 00. Instr. *math,* Cornell, 92–96; tutor, *Col. City of N. Y,* 96–98, instr, 00–05, *asst. prof, 05–* Math. Soc. Mathematical theory of the equilibrium of chemical systems.—The equilibrium of chemical systems.

Sauveur, Prof. Albert, 20 Elmwood Ave, Cambridge, Mass. *Metallurgy.* Louvain, Belgium, June 21, 63. Sch. of Mines, Liége, 81–86; B.S, Mass. Inst. Tech, 89. Chemist and metallurgist, various steel companies, 89–97; instr. metal, *Harvard,* 99–00, *asst. prof. metal. and metallog, 01–* Manager, Boston Testing Laboratories, 97–; ed, 'Metallographist,' 98–; lecturer metallog, Mass. Inst. Tech, 98–; ed, 'Iron and Steel Mag,' 04–; consulting metallurgist. Min. Eng; Chem. Soc; Am. Acad; Gt. Britain Iron and Steel Inst; Int. Ass. Testing Materials. Metallurgy of iron and steel; metallography.—The chemical composition, treatment, properties and microstructure of steel.

Savage, Dr. Watson L(ewis), Mamaroneck, N. Y. *Physical education.* Cromwell, Conn, Nov. 26, 59. A.B, Amherst, 82, A.M, 85; M.D, Long Isl. Col. Hosp, 85. Interne, St. Peter's Hosp, 85–87; med. director, Berkeley Sch. and Club, 87–90; *pres. and physician, Dr. Savage's Physical Development Inst, 90–;* director, Gym, Columbia, 97–03; *pres, N. Y. Nor. Sch. of Physical Educ, 99–* Ed. therapy of exercise, 'Jour. of Adv. Therapeut.' F.A.A; fel. Am. Med. Ass; Ass. Adv. Physical Educ. (pres, 01–03); Soc. Col. Gym. Directors (sec'y, 98–02, pres, 03); N. Y. Co. Med. Soc.

Saville, Prof. Marshall H(oward), American Museum of Natural History, New York, N. Y. *American archeology.* Rockport, Mass, June 24, 67. Special student, Peabody Mus, Harvard, 89–94; fellow, 91–93. Asst, Peabody Mus, Harvard, 89–94; asst. curator anthrop, *Am. Mus. Nat. Hist,* 94–02, *curator Mex. and Cent. Am. archeol, 02–; prof. Am. archeol, Columbia, 03–* Officier d'Acad, 01. Int. Cong. Americanists, 02 (gen. sec'y, Committee of Organization). F.A.A. (sec'y, H, 98, v. pres, 04); fel. Ethnol. Soc. (cor. sec'y, 99, v. pres, 03, rec. sec'y, 05); Boston Soc. Nat. Hist; Wash. Anthrop. Soc; cor. mem. Soc. Cient. Ant. Alz; Soc. d'Anthrop. de Paris; Swedish Soc. Anthrop. and Geog. Archeology of Mexico and Central America.—Exploration of the ruins of southern Mexico; the antiquities of Mexico and Central America.

Sawtelle, W(illiam) O(tis), 29 Ware St, Cambridge, Mass. *Experimental physics.* Bangor, Me, July 7, 74. B.S, Mass. Inst. Tech, 99; Harvard, 05– Instr. science, High Sch, Bangor, 99–00, director math, 00–03; instr. physics, Mass. Inst. Tech, 03–05. Mem. Exam. Board for U. S. Naval Acad, Third Cong. Dist, Me, 02. Boston Soc. Arts. Electrolysis of certain cyanid solutions; electrical resistance of thin films.

Sawyer, Edwin F(orrest), 101 Washington St, Brighton, Mass. *Astronomy.* Boston, Mass, May 16, 49. Pub. sch; private study. *Banker, 68–* Am. Acad; Boston Sci. Soc; Astron. Gesell. Variable stars; meteors; photometry.—Revision of star magnitudes of Potsdam Astrophysical Observatory; new variable stars; observation of known variables; meteoric showers.

Sawyer, Dr. Harris E(astman), 244 Columbia Road, Dorchester, Mass. *Chemistry, Bacteriology.* Portland, Me, April 3, 68. A.B, Harvard, 91, A.M, 94, Ph.D, 95; Copenhagen, 96–97. *Consulting chemist, 97–* Chem. Soc; Soc. Chem. Indust; Ass. Chim. de Suc. et de Dist. de France. Methods of saccharimetry.—Graduation of Ventzke saccharimeters; methods of determining reducing sugars in cane products; detection of adulterants in distilled liquors.

Sayre, Prof. H(erbert) A(rmistead), University, Ala. *Mathematical physics.* Montgomery, Ala, Aug. 2, 66. B.E, Alabama, 94; Ph.D, Hopkins, 96. Asst, McCormick Observatory, 92; *prof.* physics and math, Ursinus, 97–98; *physics, Alabama, 98–* Math. Soc.

Schaeberle, Dr. J(ohn) M(artin), 502 Second St, Ann Arbor, Mich. *Astronomy.* Würtemberg, Germany, Jan. 10, 53. C.E, Michigan, 76. Asst. to Prof. Watson, 76–78; asst, Observatory, and instr, Michigan, 78–88; astronomer, Lick Observatory, 88–98. On Eclipse Exped. to Cayenne, 89; chief, exped. to observe solar eclipse, Chile, 93; Japan, 96; acting director, Lick Observatory, 97–98. Hon. M.S, Michigan, 93; LL.D, California, 98. F.A.A. Orbits of various comets; astronomical instruments; astronomical photography; meridian circle work; theory of parabolic reflectors.—Astronomical photography (with two-foot parabolic reflector of three feet focus) in private observatory.

Schaffner, Prof. John H(enry), Botanical Department, Ohio State University, Columbus, O. *Botany.* Agosta, O, July 8, 66. A.B, Baker, 93, M.S, 96; A.M, Michigan, 94; Chicago, 96–97. Asst. bot, Michigan, 94–95; prof. nat. science, South Dakota, 95–96; asst. *bot, Ohio State,* 97–99, asst. prof, 99–02, *assoc. prof, 02–* Ed, 'Ohio

Naturalist,' 00–05. F.A.A; Ohio Acad; Kas. Acad. Plant cytology; ecology of Ohio; flora of Kansas.—Karyokinesis; the life histories of various Helobiae; the vegetation of Brush Lake, Ohio; self-pruning of woody plants.

Schaller, Waldemar T(heodore), U. S. Geological Survey, Washington, D. C. *Mineralogy.* Oakland, Cal, Aug. 3, 82. B.S, California, 03. *Asst. chemist, U. S. Geol. Surv, 03–* M.A.A; Chem. Soc; Wash. Geol. Soc. Mineralogy, especially of California; lithium minerals.—The tourmalin localities of southern California; California minerals; occurrence of lithium; lithium micas; spodumene and dumortierite from San Diego County, Cal.

Schenck, Dr. Charles C(arroll), McGill University, Montreal, Can. *Physics.* Baltimore, Oct. 10, 71. A.B, Hopkins, 93, Ph.D, 01. Instr. *physics,* Lehigh, 01–02; *demonstrator, McGill, 02–* M.A.A. Analysis of electric spark and spectrum by means of revolving mirror.—Determination of ionic velocities.

Schiedt, Prof. R(ichard) C(onrad Francis), 1043 Wheatland Ave, Lancaster, Pa. *Biology, Geology.* Weissenfels, Germany, Sept. 21, 59. Erlangen, 78–80; Berlin, 81; Ph.D, Pennsylvania, 99. Instr. sciences, Calvin Col, Cleveland, O, 81–82; principal, Int. Acad, Portland, Ore, 82–85; *prof.* nat. sciences and chem, *Franklin and Marshall,* 87–00, *biol. and geol, 00–* Entomologist, State Board of Agr, Pa, 94– M.A.A; Chem. Soc. Pigmentation in animal tissue; regeneration and sex of Ostrea; some phenomena of animal pigmentation.—The eye of Ostrea; causes of pigmentation.

Schieffelin, Dr. William Jay, 5 East 66th St, New York, N. Y. *Chemistry.* New York, April 14, 66. Ph.B, Columbia, 87; Ph.D, Munich, 89. *V. pres. Schieffelin and Co, 03–* V. pres, N. Y. Col. Pharmacy. Chem. Soc; Soc. Chem. Indust. (v. pres.); life mem. London Chem. Soc; Chem. Gesell. Chemicals used in medicine and their manufacture.

Schimpf, Prof. Henry W(illiam), 443 W. 34th St, New York, N. Y. *Chemistry.* New York, Feb. 14, 68. Ph.G, N. Y. Col. Pharmacy, 87; M.D, Long Isl. Med. Col, 97. *Prof.* inorg. chem, *Brooklyn Col. Pharmacy,* 92–02, *anal. chem, 02–* Delegate, Convention for Revision of U. S. Pharmacopœia, 00. Chem. Soc; Pharmaceut. Ass; N. Y. State Pharmaceut. Ass; N. Y. Co. Med. Soc; Kings Co. Pharmaceut. Soc. Volumetric methods for alkaloids and galenicals; chemistry of drugs.

Schlesinger, Dr. Frank, Allegheny Observatory, Allegheny, Pa. *Astronomy.* New York, N. Y, May 11, 71. B.S, Col. City of N. Y, 90; A.M, Columbia, 97, Ph.D, 98. Observer in charge, Int. Lat. Observatory, Ukiah, Cal, 99–03; astronomer, Yerkes Observatory, 03–05; *director, Allegheny Observatory, and prof. astron, West. Univ. of Pa, 05–* F.A.A; Pacific Astron. Soc; Astron. Gesell. Stellar parallax; reduction of astronomical photographs; variation of latitude; motion in the line of sight.—Solar physics; stellar photometry; motion in the line of sight.

Schlotterbeck, Dr. J(ulius) O(tto), 1319 Israel Hall Ave, Ann Arbor, Mich. *Pharmacognosy.* Ann Arbor, Sept. 1, 65. Ph.C, Michigan, 87, B.S, 91; Ph.D, Bern, 96. Asst. prof. *pharmacog, Michigan,* 96–04, *junior prof, 04–, dean, Sch. Pharmacy, 05–* F.A.A; Pharmaceut. Ass; Mich. Pharmaceut. Ass. Chemistry of plant constituents; development and histology of seeds.—The alkaloids of Adlumia cirrhosa; the chemistry of and the color compound in Stylophorum diphyllum; the development and structure of the seed of Argemone Mexicana; chemistry of Argemone Mexicana; chelidonin; Bocconia cordata.

Schlundt, Dr. Herman, Columbia, Mo. *Physical chemistry.* Two Rivers, Wis, July 16, 68. B.S, Wisconsin, 94, M.S, 96, Ph.D, 01. Asst. chem, Wisconsin, 94–96; teacher physics and chem, West Div. High Sch, Milwaukee, Wis, 96–99; *instr.* chem, Wisconsin, 01–02; *physical chem, Missouri, 02–* Soil chemist, U. S. Dept. Agr, 02. Chem. Soc; Wis. Acad. Dielectric constants of solvents; non-aqueous solutions.—Optical rotation in inorganic solvents; radioactivity of mineral waters.

Schmeckebier, Dr. L(aurence) F(rederick), 1620 W. Lexington St, Baltimore, Md. *Geography, History, Economics.* Baltimore, Jan. 24, 77. A.B. Hopkins, 96, Ph.D, 99. *Ed. asst, U. S. Geol. Surv, 99–* F.A.A; Forestry Ass; Nat. Geog. Soc.

Schmiedel, Prof. Oscar (Robert Paul), Bellevue, Nebr. *Mathematics.* Gülzow, Germany, Dec. 1, 61. B.S, Bethany (W. Va.), 86, A.M, 88. *Prof. math,* Bethany (W. Va.), 86–02; *Bellevue (Nebr.), 04–* Math. Soc.

Schmitt, Prof. Cooper D(avis), 1302 White Ave, Knoxville, Tenn. *Mathematics.* Woodstock, Va, Dec. 4, 59. A.B, Mercersburg, 79, A.M, Virginia, 84. Master *math,* Pantops Acad, Va, 84–89; *prof, Tennessee, 89–* Statist. agent for Ky. and Tenn, U. S. Dept. Agr, 95–98.

Schneider, Dr. Albert, California College of Pharmacy, San Francisco, Cal. *Botany, Bacteriology.* Granville, Ills, April 13, 63. M.D, Col. Physicians and Surg, Chicago, 87; B.S, Illinois, 94; M.S, Minnesota, 94; fellow, Columbia, 94–96, Ph.D, 97. Instr. crypt. bot, Minnesota, 93, 94; lecturer bot, Brooklyn Inst, 96; *prof. bot, pharmacog. and bacter,* Sch. of Pharmacy, Northwestern, 97–03; *Col. Pharmacy, San Francisco, 03–* Head teacher and res. physician, Spencer's Acad, I. T, 89; asst. state zoologist, Minn, 92; asst. bacteriologist, Ills. Exp. Sta. Soc. Nat; Pharmaceut. Ass; Acad. Polit. and Social Sci; Bot. Cent. States; Torrey Bot. Club; Int. Ass. Bot. Biology; microtechnique; free nitrogen assimilating bacteria (rhizobia); vegetable drugs.—Significance of free nitrogen assimilating bacteria in agriculture; vegetable drugs.

Schneider, Prof. Edward C(hristian), Colorado College, Colorado Springs, Colo. *Physiological chemistry, Biology.* Wapello, Ia, Aug. 21, 74. B.S, Tabor, 97; Ph.D, Yale, 01. Instr. chem, Tabor, 97–99, *prof.* biol. and physiol. chem, 01–03; *biol, Colo. Col, 03–* Asst. bacteriologist, Antitoxin Lab, N. Y. State Dept. of Health, Albany, summer, 02. Variation in the sulphocyanid content of human saliva; the excretion of kynurenic acid.—Blood pressure in man.

Schober, Prof. William B(ush), Lehigh University, South Bethlehem, Pa. *Chemistry.* Cumberland, Md, Nov. 28, 64. B.S, St. John's (Md.), 86, A.M, 90; Ph.D, Hopkins, 92. Instr. sciences, Allegany Acad, Cumberland, 86–88; asst, Chem. Lab, Hopkins, 90–92; instr. org. chem, *Lehigh,* 92–04, *asst. prof. chem, 04–* F.A.A; Chem. Soc. Diazo-compounds; sulphonic acids.—Sulphonic acids.

Schoch, Dr. Eugene P(aul), 714 W. 23d St, Austin, Tex. *Chemistry.* Berlin, Germany, Oct. 16, 71. C.E, Texas, 94, A.M, 96; fellow, Chicago, 99–00, Ph.D, 02. *Instr. chem, Texas, 97–* Oxids of mercury.—Oxidation reactions that lead to equilibrium.

Schoder, Dr. E(rnest) W(illiam), 410 E. Yates St, Ithaca, N. Y. *Hydraulic engineering.* Fidalgo Island, Wash, Aug. 17, 79. B.S, Washington (Seattle), 00; Ph.D, Cornell, 03. Station asst, U. S. Geol. Surv, 00; engineer on construction, Ithaca Water Works Pumping Sta. and Cornell Water Purification Plant, 03–04; *engineer in charge, Hydraulic Lab, Cornell, 04–, asst. prof. exp. hydraulics, 05–* Junior Civil Eng. Flow of water in pipes; effects of curvature, size, roughness, temperature; critical velocity; effects of abnormal flow on piezometric indications; hydraulics of Panama sea-level canal without locks.—The Pitot tube; flow of water over weirs.

Schöney, Dr. L(azarus), St. James Court, 143d St. and Seventh Ave, New York, N. Y. *Biology, Pathology, Botany.* Budapest, Hungary, Oct. 18, 38. Ph.D, Prague, 57; M.D, Pennsylvania, 62. Contract surgeon, U. S. A, 62–65; prof. path, N. Y. Eclectic Med. Col, 87–00. F.A.A; Micros. Soc; N. Y. Micros. Club; Torrey Bot. Club. Pathology; cartilage and bone of birds; the origin of red blood-corpuscles.—Pathology and therapy of fever.

Schottenfels, Miss Ida M(ay), 1230 Amsterdam Ave, New York, N. Y. *Mathematics.* Des Moines, Ia, Dec. 21, 69. A.B, Northwestern, 92; hon. fellow, Yale, 92–93; A.M, Chicago, 96. Teacher, Chicago grammar and high schools, 86–90; *instr. math, N. Y. Nor. Col, 01–* Math. Soc. Complete determination of all types of simple groups of order 20160; multiply-connected unilateral surfaces; generational definitions of the different types of simple groups of order 20160.—A set of generators for the linear and linear fractional substitution groups; a theory of functions for the system of complex numbers founded on units.

Schrader, F(rank) C(harles), U. S. Geological Survey, Washington, D. C. *Geology.* Sterling, Ills, Oct. 6, 60. M.S, Kansas, 91; A.M, Harvard, 93. Asst. entom, Kansas, 89, 91; Mass. Board of Agr, 93, 94; teacher geol, Harvard, 95–96; *asst. geol. and geologist, U. S. Geol. Surv, 96–* Geol. Soc; Min. Eng; Nat. Geog. Soc; Wash. Geol. Soc. Geology; geography; entomology.—The geology, physiography and mineral resources of Alaska.

Schreiner, Dr. Oswald, U. S. Department of Agriculture, Washington, D. C. *Chemistry.* Nassau, Germany, May 29, 75. Baltimore Polytech, 92; Ph.G, Md. Col. Pharmacy, 94; Hopkins, 94–95; U. S. P. research fellow, 95–96; B.S, Wisconsin, 97, M.S, 99, Ph.D, 02. Asst. pharmaceut. technique, Wisconsin, 96, instr, 97–02, physical chem, 02–03; *chemist, U. S. Dept. Agr, 03–* Expert physical chem, U. S. Dept. Agr, summer, 02. Ebert prize, 00. Chem. Soc; Pharmaceut. Ass. Chemistry of volatile oils; characterization and classification of sesquiterpenes; complex nitroso-compounds of unsaturated hydrocarbons; photochemical action; complex boric acids and borates; soap solutions; colorimetric methods.—Solution phenomena with special reference to soil and plant problems.

Schrenk, Dr. H(ermann) von, Missouri Botanical Garden, St. Louis, Mo. **Vegetable pathology.* College Point, N. Y, March 12, 73. B.S, Cornell, 93; A.M, Harvard, 94; Ph.D, Washington (St. Louis), 97. Asst. bot, Harvard, 93–94; instr, St. Louis Manual Training Sch, 94–96; Shaw Sch. of Bot, 96–03; *in charge, Miss. Valley Lab, Bur. Plant Indust, U. S. Dept. Agr, 01–,* Div. Forest Products, Bur. Forestry, 03–05. Special agent, Div. Veg. Physiol. and Path, U. S. Dept. Agr, 98–01; lecturer timber diseases, Yale Forest Sch, 02–; ed. veg. path. for U. S, and sec'y, Am. Board of Editors, 'Bot. Centralblatt.' F.A.A. (sec'y, G, 02); Soc. Nat. (treas, 04–); Bot. Soc; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; St. Louis Acad; Bot. Gesell. Diseases of plants, chiefly of trees and timber.—Preservation of timber.

Schuchert, Prof. Charles, Yale University Museum, New Haven, Conn. **Paleontology.* Cincinnati, O, July 3, 58. Pub. schools. Asst. to E. O. Ulrich, Newport, Ky, 85–89; to Prof. James Hall, Albany, N. Y, 89–91; Minn. Geol. Surv, 91–92; to Prof. C. E. Beecher, Yale, 92–93; asst. paleontologist, U. S. Geol. Surv, 93–94; asst. curator, U. S. Nat. Mus, 94–04; *prof. paleont, Yale, and hist. geol, Sheffield Sci. Sch, 04–* Hon. A.M, Yale, 04. Soc. Nat; Geol. Soc; Wash. Geol, Biol. and Geog. Societies. Invertebrate Paleozoic fossils.

Schuerman, Prof. W(illiam) H(enry), Vanderbilt University, Nashville, Tenn. *Mechanics.* Cincinnati, O, Nov. 8, 59. C.E, Cincinnati, 81; Hopkins, 82–83. Instr. physics, Missouri, 83–85, asst. prof. physics and eng, 85–88; construction of water works, Covington, Ky, 88–90; irrigation canal work near Bakersfield, Cal, 90–

93; *prof. civil eng, Vanderbilt, 94–, dean, Eng. Dept, 95–* Preliminary railroad surv, southeastern Ky, summer, 80; drafting on railway construction work, 81–82; calculation of railway bridges, 82; in charge designing and construction of sewerage systems, Monroe, La, and Oxford, Mass, 00–02. Prize, Eng. Ass. of the South, 99, 01. Eng. Educ. (mem. Council, 96–99); Eng. Ass. of the South (pres, 02). Estimation of probable volume of local traffic on railways; greatest bending moments and shears produced by a system of concentrated loads on railway bridges; ideal and practical columns.—Stresses in railway bridge members due to system of concentrated wheel loads; strength and elasticity of materials of engineering; hydraulic diagrams.

Schultze, Dr. Arthur, 4 W. 91st St, New York, N. Y. *Mathematics.* Naumburg, Germany, March 30, 61. Leipzig, 80–82; Berlin, 82–86; Ph.D, Kiel, 87. Instr. *math,* DeWitt Clinton High Sch, N. Y, 97–02; head teacher, High Sch. of Commerce, 02–05; *asst. prof, N. Y. Univ, 05–* Math. Soc; Ass. Teachers Math. of Middle States and Md. (sec'y). Movement of heat in rectangular parallelopid; partial differential equations.

Schultze, Dr. Otto H(enry), Cornell Medical College, 28th St. and First Ave, New York, N. Y. *Pathology.* New York, March 10, 67. A.B, Col. City of N. Y, 86; M.D, Columbia, 89. Coroner's physician, County of New York, N. Y, 96–98; *instr. path, Med. Col, Cornell, 98–;* prof, Vermont, 00–03. Curator, Bellevue Hosp, 99–04; coroner's physician, Borough of Manhattan, N. Y, 02– Ass. Path. and Bact; Soc. Med. Juris; N. Y. State Med. Ass; N. Y. Co. Med. Soc; N. Y. Path. Soc. Causes of sudden death; medico-legal relations of autopsies.

Schulz, William F(rederick), 1301 Springfield Ave, Urbana, Ills. *Mathematical physics.* Baltimore, Md, Jan. 11, 72. Proficient in elec. eng, Johns Hopkins, 93; E.E, Illinois, 00. *Instr. physics, Illinois, 01–* Physical Soc. Radiation in electrostatic fields; measurement of induction and capacity.

Schurman, Pres. J(acob) G(ould), 41 East Ave, Ithaca, N. Y. **Philosophy, Education.* Freetown, Prince Edward Island, May 22, 54. A.B, London, 77, A.M, 78; Sc.D, Edinburgh, 78, Hibbert fellow (Heidelberg, Berlin, Göttingen and Italy), 78–80. Prof. English lit, polit. econ. and psychol, Acadia, 80–82; metaphysics and English lit, Dalhousie, 82–86; Sage prof. philos, *Cornell,* 86–92, *pres, 92–* Senior ed, 'Philos. Rev,' 92–02; ed, 'Sch. Rev,' 93–95; chairman, first U. S. Philippine Commission, 99. LL.D, Columbia, 92; Yale, 01; Edinburgh, 02. F.A.A; Philos. Ass; Psychol. Ass.

Schwatt, Prof. I(saac) J(oachim), University of Pennsylvania, Philadelphia, Pa. *Mathematics.* Mitau, Russia, June 18, 67. Ph.D, Pennsylvania, 93. Instr. *math, Pennsylvania,* 93–97, *asst. prof, 97–* F.A.A; Math. Soc; Math. Verein.

Schweitzer, Dr. Hugo, 427 W. 117th St, New York, N. Y. *Chemistry.* Pitschen, Germany, June 8, 61. Ph.D, Freiburg, 84. Asst, Agr. High Sch, Berlin, asst. prof, Org. Lab, Heidelberg, and chemist, Badische Anilin und Sodafabrik, Ludwigshafen-am-Rhein, 84–89; chem. expert, N. Y. City, 89–96; *in charge, Pharmaceut. Dept, Farbenfabriken of Elberfeld Co, 96–* Chem. Soc; Soc. Chem. Indust; Chem. Verein; Chem. Gesell. Organic coloring matters; synthetic pharmaceuticals; fats and oils; chemical jurisprudence.

Schweitzer, Prof. (Johann) Paul, University of Missouri, Columbia, Mo. *Chemistry.* Berlin, Germany, March 16, 40. Ph.D, Göttingen, 69. Asst. to H. Rose, Berlin, 63; chem, Polytech. Inst, Phila, 65; Sch. of Mines, Columbia, 66; *prof, Missouri,* 72–94, *agr. chem. and chemist, Agr. Exp. Sta, 94–* Gold medal, Paris Expos; LL.D, Missouri, 96. F.A.A. (sec'y, Subsect. Chem, 77); Chem. Soc; cor. mem. N. Y. Acad; hon. mem. Mo. State Pharmaceut. Ass; St. Louis Acad; Chem. Gesell. Agricultural chemistry; tribasic phosphoric acid; etc.

Schwyzer, Dr. Fritz, 54 E. 58th St, New York, N. Y. *Medicine.* Zürich, Switzerland, Aug. 19, 64. M.D, Würzburg, 87; Staatsexamen, Zürich, 88. Asst. path. anat, Zürich, 88–89; pathologist, German Hosp, N. Y, 94–03. Physisian, St. Francis Hosp, 00. Ass. Path. and Bact. Pathological anatomy; permeability of kidneys for microbes; adenomahepatis; Electrotropismus; carcinoma glandulae Bartholdi; fistula penis congenita; stenosis pylori congenita; chronic fluorin poisoning in man; chronic fluorin poisoning in animals; significance of the elastic tissue of the aorta.—Angiospasms in malaria; coagulability of the blood and its management.

Scott, Prof. Arthur Curtis, 1914 Neuces St, Austin, Tex. *Electrical engineering.* Belmont, N. Y, Aug. 31, 73. B.S, R. I. Col. Agr. and Mech. Arts, 95; Ph.D, Wisconsin, 02. Instr. chem, R. I. Col. Agr. and Mech. Arts, 94–95, physics, 95–97, *prof,* 97–03; *elec. eng, Texas, 03–* M.A.A; Elec. Eng; Eng. Educ; Nat. Educ. Ass. Rotations produced by current from a single-phase alternator; summary of glacier work.—Non-commutating single-phase motors.

Scott, Charles F(elton), Westinghouse Electric and Manufacturing Co, Pittsburg, Pa. **Electrical engineering.* Athens, O, Sept. 19, 64. A.B, Ohio State, 85; Hopkins, 86–87. With *Westinghouse Elec. and Mfg. Co,* 88, asst. electrician, 91–93, electrician, 93–96, chief electrician, 96–04, *consulting engineer, 04–* F.A.A; Elec. Eng. (pres, 02–03); Philos. Soc; West. Pa. Eng. Soc. (pres, 02). Electricity, particularly alternating current in the transmission and utilization of power.

Scott, Prof. C(harlotte) A(ngas), Bryn Mawr, Pa. **Mathematics.* Lincoln, England, June 8, 58. Girton, 76–80; B.S, London, 82, Sc.D, 85. Lecturer *math,* Girton, 80–84; assoc. prof, *Bryn Mawr,* 85–88, *prof,* 88– Head examiner math, Col.

Entrance Exam. Board, 02, 03; on staff, 'Am. Jour. Math,' and 'Revue Semestrielle der Pub. Math.' U. S. delegate, Int. Cong. Math. Paris, 00. Math. Soc; London Math. Soc; Edinburgh Math. Soc; Math. Verein; hon. mem. Amsterdam Math. Soc; Circolo Mat. di Palermo. Theory of plane algebraic curves (singularities, intersections, systems of curves, transformation, nature of circuits).—Plane algebraic curves.

Scott, Dr. Colin A(lexander), Boston Normal School, Boston, Mass. *Psychology.* Ottawa, Can, Feb. 11, 61. A.B, Queen's (Can.); Ph.D, Clark, 96. *Teacher chem,* Ottawa Col. Inst, 84–93; Chicago Nor. Sch, 96–01; Colo. Nor. Sch, 01–02; *Boston Nor. Sch, 02–* Teacher chem, Wis. Nor. Sch; lecturer, Chicago and Chautauqua; ed, 'Child-study Quarterly'. Psychol. Ass. Psychology; education.—Psychology of leadership; social groups in schools as a condition of education.

Scott, Prof. Walter Dill, 714 Foster St, Evanston, Ills. *Psychology, Pedagogy.* Cooksville, Ills, May 1, 69. A.B, Northwestern, 95; McCormick Theol. Sem, 95–98; Ph.D, Leipzig, 00. Instr. *psychol. and pedag, Northwestern,* 00–01, *asst. prof. and director, Psychol. Lab, 01–* Instr, Secretarial Inst. and Training Sch. of Y. M. C. A. Psychol. Ass; Ills. Soc. Child Study. Attention; chronic bad spelling; the theory of advertising.—Attention; psychology of advertising; history of education in the United States.

Scott, Prof. W(illiam) B(erryman), 56 Bayard Lane, Princeton, N. J. **Paleontology.* Cincinnati, O, Feb. 12, 58. A.B, Princeton, 77; Ph.D, Heidelberg, 80. Asst. geol, *Princeton,* 80, *Blair prof. geol. and paleont, 84–* Soc. Nat; Geol. Soc; Philos. Soc; Wash. Acad; British Ass; London Geol, Zool. and Linnean Societies. Vertebrate embryology and paleontology.—The extinct mammalian fauna of Patagonia.

Scott, William E(arl) D(odge), Princeton, N. J, or Shawnee-on-Delaware, Pa. *Ornithology.* Brooklyn, N. Y, April 22, 52. B.S, Harvard, 73. Instr, State Nor. Sch, Warrensburg, Mo, 74; curator, Mus. Biol, *Princeton,* 75–83, field work, 83–97, *curator, Dept. Ornith, 98–; director, Worthington Soc. for the Investigation of Bird Life, 04–* Birds; migration; live birds in captivity.—Instinct, habit, breeding, moult, etc, in live birds in captivity.

Scott, W(illiam) M(oore), U. S. Department of Agriculture, Washington, D. C. *Plant pathology.* Sugar Grove, Va, May 30, 73. B.S, Va. Polytech, 96, M.S, 98. Asst. horticulturist, Va. Polytech, 96–98; state entomologist, Ga, 98–03; *pathologist, Bur. Plant Indust, U. S. Dept. Agr, 04–* M.A.A; Soc. Plant Morph. and Physiol; Soc. Hort. Sci; Ass. Econ. Entom; Wash. Bot. Soc; Wash. Biol. Soc. Orchard diseases.

Scovell, Prof. J(osiah) T(homas), 1416 S. Center St, Terre Haute, Ind. *Botany.* Vermontville, Mich, July 29, 41. A.B, Oberlin, 66; M.D, Rush Med. Col, 69; A.M, Oberlin, 72. Instr. chem, Olivet, 71–72; *prof. physiol. and bot,* Ind. State Nor. Sch, 72–81; *High Sch, Terre Haute, 94–* Ind. Acad. Distribution of fresh-water plants.

Scovell, Prof. Melville A(masa), Lexington, Ky. **Chemistry, Agriculture.* Broadway, N. J, Feb. 26, 55. B.S, Illinois, 75, M.S, 77. Instr. chem, Illinois, 75–77, asst. prof. agr. chem, 77–80, prof, 80–82; special agent, U. S. Dept. Agr, 84–85; *director, Ky. Agr. Exp. Sta, 85–* Chairman, Commission Dairy Tests, Columbian Expos, 93; mem. Committee Food Standards, U. S. Dept. Agr. F.A.A; Chem. Soc; Soc. Prom. Agr. Sci; Soc. Chem. Indust; Ass. Off. Agr. Chemists (past pres.); Ass. Agr. Col. (past sec'y).

Scripture, Prof. E(dward) W(heeler), Johns Hopkins University, Baltimore, Md. **Psychology.* Mason, N. H, May 21, 64. A.B, Col. City of N. Y, 84, A.M, 90; Ph.D, Leipzig, 91. Instr. exp. psychol, Yale, 92–01, director, Psychol. Lab, 98–03, asst. prof, 01–03. Asst. ed, 'Am. Jour. Psychol,' 91–92; ed, 'Studies from the Yale Psychol. Lab,' 92–03. Gold medal, Paris, 00; bronze medal, Buffalo, 01; Longstreth medal, Franklin Inst, 02. F.A.A. (sec'y, H, 99); Soc. Nat; Wash. Acad. Phonographic records, etc; association of ideas; applications of psychology to education.—Gramophone and phonograph curves of various language and dialects; instruments for detecting color-blindness; production of anesthesia by electricity.

Scudder, Dr. Sam(ue)l H(ubbard), 156 Brattle St, Cambridge, Mass. **Entomology.* Boston, Mass, April 13, 37. A.B, Williams, 57, A.M, 60; B.S, Harvard, 62. Custodian, Boston Soc. Nat. Hist, 64–70; asst. librarian, Harvard, 79–82; paleontologist, U. S. Geol. Surv, 86–92. Ed, 'Science,' 83–85. Walker grand prize; hon. Sc.D, Williams, 90; LL.D, Western Univ. of Pa, 90. Nat. Acad; F.A.A. (gen. sec'y, 75, v. pres, 94); Soc. Nat; Philos. Soc; fel. Am. Acad; Can. Royal Soc; hon. mem. London Entom. Soc; London Zool. Soc; Vienna K. K. Zool.-Bot. Gesell; hon. mem. St. Petersburg Soc. Entom; Moscow Imp. Soc. Nat; Soc. entom. de Belgique; Soc. entom. des Pays Bas (Hague); Soc. Phys. et Hist. Nat. de Genève; hon. mem. Madrid Soc. de Hist. Nat. Lepidoptera; Rhopalocera; Orthoptera; fossil insects.

Seal, Dr. Alfred N(ewlin), 405 Wister St, Germantown, Philadelphia, Pa. *Chemistry.* Langhorne, Pa, July 29, 69. B.S, Pennsylvania, 89, P.C, 90, Ph.D, 95. *Prof. chem. and physics, Girard, 99–* Anal. and research work in various laboratories. M.A.A; Chem. Soc; Franklin Inst. Action of acid amids on benzoin.

Seaman, Prof. A(rthur) E(dmund), Houghton, Mich. *Geology, Mineralogy.* Casinovia, Mich, Dec. 29, 58. B.S, Mich. Col. Mines, 95. Asst. miner. and geol, Mich. Col. Mines, 90–93, instr, 93–95, asst. prof, 95–97, prof, 97–05. With Mich. Geol. Surv, 85–93. M.A.A; Geol. Soc; Mich. Acad; Lake Superior Min. Inst. Stratigraphy of Lake Superior region.

Seaman, Prof. W(illia)m H(enry), 1424 11th St, N. W, Washington, D. C. **Chemistry.* New York, N. Y, Nov. 1, 37. B.L, Columbian, 72; M.D, Howard, 83. Mus. work, U. S. Dept. Agr, 69–79; instr. bot, *Med. Dept, Howard,* 71–73, *prof. chem, 74–; examiner, U. S. Patent Office,* 79– Mem. Convention for Revision U. S. Pharmacopœia, 80–90; sec'y and ed, Am. Soc. Micros, 91–96; abstractor chem. patents for 'Jour. Am. Chem. Soc.' F.A.A. (sec'y, Subsect. Micros, 81); Chem. Soc; Wash. Geog. Soc; Wash. Biol. Soc; Wash. Micros. Soc. (pres, 91); Wash. Chem. Soc. (pres, 94). Relations of science, especially of chemistry, to education; microscopical anatomy of plants; solubility of inorganic salts in hydrocarbons; size of drops used in medicine.—Continuation of solubility experiments; X-ray work.

Seares, Prof. F(rederick) H(anley), Columbia, Mo. *Astronomy.* Cassopolis, Mich, May 17, 73. B.S, California, 95, fellow, 95–96, grad. student, 98–99; Berlin, 99–00; Paris, 00–01. Instr. *astron,* California, 96–98; *prof. and director, Laws Observatory, Missouri, 01–* Astron. and Astrophys. Soc; Pacific Astron. Soc. (mem. Pub. Committee, 97–98, second v. pres, 97, third v. pres, 98); Astron. Gesell; Soc. astron. de France. Theory of orbits and perturbations; photometry.—Photometry.

Searle, Prof. Arthur, 41 Concord Ave, Cambridge, Mass. **Astronomy.* London, England, Oct. 21, 37. A.B, Harvard, 56, A.M, 59. Asst, Harvard Col. Observatory, 69–83, asst. prof. *astron, Harvard,* 83–87, *Phillips prof, 87–* Fel. Am. Acad. Zodiacal light; personality in transit observations.—Meridian observations for zone −10° to −14°; methods of presentation of elementary principles in theoretical astronomy.

Searle, Rev. Geo(rge) M(ary), St. Thomas' College, Catholic University, Washington, D. C. *Astronomy.* London, England, June 27, 39. A.B, Harvard, 57, A.M, 60. Asst, Dudley Observatory, 58–59; asst. prof, U. S. Naval Acad, 62–64; asst, Harvard Col. Observatory, 66–68; *prof. math. and director, Observatory, Catholic, 95–* Hon. Ph.D, Catholic, 96. F.A.A; Math. Soc; Am. Acad. Astronomy.

Sears, Dr. Geo(rge) G(ray), 426 Beacon St, Boston, Mass. *Medicine.* Boston, Oct. 22, 59. A.B, Amherst, 80; M.D, Harvard, 85. Instr. *clin. med, Harvard Med. Sch,* 97–01, *asst. prof, 01–* Visiting physician, Boston City Hosp, 02– Am. Physicians; Mass. Med. Soc; Boston Soc. Med. Improv. Clinical manifestations of disease.

Seashore, Prof. C(arl) E(mil), Iowa City, Ia. **Psychology.* Mörlunda, Sweden, Jan. 28, 66. A.B, Gustavus Adolphus, 91; Ph.D, Yale, 95. Asst, Psychol. Lab, Yale, 95–97; asst. prof. philos, *Iowa,* 97–02, *prof. psychol, 02–, head, Dept. Philos. and Psychol, 05–* F.A.A; Psychol. Ass; West. Philos. Ass. Normal illusions; work and fatigue.—Work and fatigue; localization of sound; voluntary control of the pitch of the voice; the periodicity of mental work.

Sedgwick, Prof. W(illiam) T(hompson), Edge Hill Road, Brookline, Mass. **Biology.* West Hartford, Conn, Dec. 29, 55. Ph.B, Yale, 77; fellow, Hopkins, 79–80, Ph.D, 81. Instr. physiol. chem, Yale, 78–79; *biol,* Hopkins, 80–81, assoc, 81–83; asst. prof, *Mass. Inst. Tech,* 83–87, assoc. prof, 87–91, *prof, 91–* Biologist, State Board of Health, Mass, 88–96; curator, Lowell Inst, Boston, 97–; chairman, Pauper Inst. Trustees, Boston, 97–99; trustee, Simmons, 99–; pres, Mass. Civil Service Reform Ass, 00–02; Board of Trustees, Sharon Sanatorium. F.A.A; Soc. Nat. (pres, 01); Soc. Bact. (pres, 00); Physiol. Soc; Am. Acad; New Eng. Water Works Ass; etc. General biology; bacteriology; sanitation; public health.

See, Horace, 1 Broadway, New York, N. Y. *Naval architecture, Marine engineering.* Philadelphia, Pa, July 17, 35. Private schools. Supt. engineer, Wm. Cramp and Sons, 79–89; South. Pacific Co, 89–03; *consulting engineer, Newport News S. and D. D. Co, 89–* Supt. engineer, Pacific Mail S. S. Co, 93–01; supt, Cromwell S. S. Co, 93–02. Gold medal, Pan-Am. Expos. F.A.A; Mech. Eng. (past pres.); Naval Archit. and Marine Eng; Franklin Inst; British Inst. Naval Archit.

See, Prof. T(homas) J(efferson) J(ackson), U. S. Naval Observatory, Mare Island, Cal. **Astronomy, Mathematics.* Montgomery City, Mo, Feb. 19, 66. A.B, B.L, B.S, Missouri, 89, A.M, L.M, M.S, 92; Ph.D, Berlin, 92. Instr. in charge, Dept. Astron, Chicago, 93–96; astronomer, Lowell Observatory, 96–98; *prof. math, U. S. N, 99–* Lecturer sidereal astron, Lowell Inst, Boston, 99. F.A.A; Math. Soc; Philos. Soc; St. Louis Acad; Wash. Acad; Wash. Philos. Soc; fel. Royal Astron. Soc; London Math. Soc; Astron. Gesell; Math. Verein; Soc. math. de France. Origin of binary stars; tides; orbits of double stars; discovery and measurement of double stars; diameters of planets; observation of satellites; heat of sun; irradiations of planets and satellites; invariable plane of planetary system; internal densities, pressures and moments of inertia of sun, planets and satellites; comparative rigidity of planets; porosity, penetrability and fluidity of all matter under planetary pressure.—General theory of tides for gaseous bodies; secular effects of tides upon stellar systems; figures of equilibrium of rotating masses.

Seelig, Dr. M(ajor) G(abriel), 3908 Olive St, St. Louis, Mo. *Surgery.* Helena, Ark, Feb. 19, 74. A.B, Harvard, 96; M.D, Columbia, 00. *Asst. path, Med. Dept, St. Louis.* Assoc. surgeon, Jewish Hosp, and chief, Surg. Outpatient Dept, Jewish Dispensary, St. Louis. M.A.A; St. Louis Med. Sci. Club. Surgical pathology and technique.—Pathology of sarcomata; pathology of the thyroglossal duct.

Seely, Prof. Henry M(artyn), 3 South St, Middlebury, Vt. *Chemistry, Geology.* South Onondaga, N. Y, Oct. 2, 28. Ph.B, Yale, 56, A.M, 60; M.D, Berkshire Med. Inst, 57; Freiburg, 67; Heidelberg, 68. Prof. chem, Berkshire Med. Inst, 57–62; Med. Dept, Vermont, 60–67; chem. and nat. hist, *Middlebury,* 61–92, *nat. hist,* 92–95, *emer. prof, 95–* Sec'y, Vt. Board of Agr, 75–78. Geol. Soc; Chem. Soc; Wash. Biol. Soc; Vt. Bot. Club. Microscopic structure of fossil sponges; the succession and character of the Champlain series of rocks, particularly of the Chazy and Beekmantown (calciferous) formations.—Geology of the Champlain Valley; the rock contact of the different formations of the Champlain division; kinds of contact, character and conditions of the contact rocks; history as indicated by these contacts.

Seidell, Dr. Atherton, 2225 15th St, Washington, D. C. *Chemistry.* Hartwell, Ga, Dec. 31, 78. B.Agr, Georgia, 98, B.S, 99; M.S, Columbian, 01; Ph.D, Hopkins, 03. Asst, N. P. Pratt Lab, and Geo. F. Payne Lab, Atlanta, Ga, 99, 00; *asst. chemist,* Bur. Soils, *U. S. Dept. Agr,* 00–05, *Bur. Chem, 05–* Chem. Soc; Wash. Chem. Soc. (sec'y, 03–). Solubility of mixtures of two or more electrolytes; composition of precipitated manganese dioxid; solubility of the calcium phosphates.

Selby, Augustine D(awson), Ohio Agricultural Experiment Station, Wooster, O. *Botany.* Athens Co, O, Sept. 2, 59. B.S, Ohio State, 93. Supt. schools, Huntington, W. Va, 84–86; principal, High Sch, Ironton, O, 86–87; teacher bot, High Sch, Columbus, O, 90–94; botanist and chemist, *Ohio Agr. Exp. Sta,* 94–02, *botanist, 02–* F.A.A; assoc. Bot. Soc; Bot. Cent. States; Ohio Hort. Soc. (chairman, Committee Veg. Path, 95–05); Ohio Acad. (pres, 01); Columbus Hort. Soc. (sec'y, 88–89, 91–94); St. Louis Acad. Diseases of plants.

Seligman, Prof. Edwin R(obert) A(nderson), 324 W. 86th St, New York, N. Y. *Economics.* New York, April 25, 61. A.B, Columbia, 79; Berlin, Heidelberg, Geneva and Paris, 79–82; A.M, Columbia, 83, LL.B, Ph.D, 84. Lecturer polit. econ, *Columbia,* 85–88, adj. prof, 88–91, prof. polit. econ. and finance, 91–04, *McVickar prof. polit. econ, 04–* Ed, 'Polit. Science Quarterly'; managing ed, 'Columbia Series in Hist, Econ. and Pub. Law'. LL.D, Columbia, 04. Econ. Ass. (pres, 02–04); Wash. Acad; Am. cor. Royal Econ.Soc; cor. mem. Russian Imp. Acad. Public finance; economic theory and history.

Sellards, Dr. E(lias) H(oward), Lake City, Fla. *Paleontology, Geology.* Carter City, Ky, May 2, 75. A.B, Kansas, 99, A.M, 00; fellow, Yale, 01–03, Ph.D, 03. Asst. paleontologist, Kas. Univ. Geol. Surv, 00–01; field asst, Carnegie Mus, 03; instr. geol. and miner, Rutgers, 03–04; *prof. geol. and zool, Florida, and entomologist, Fla. Exp. Sta, 04–* M.A.A; Geol. Soc. Paleozoic plants and insects.—Carboniferous and Permian plants of Kansas; Carboniferous and Permian insects.

Sellew, Prof. George T(ucker), Galesburg, Ills. *Mathematics.* Gowanda, N. Y, Oct. 26, 66. A.B, Rochester, 89, A.M, 92; Cornell, 93–94; Yale, 96–98, Ph.D, 98. Instr. *math,* Ohio Mil. Acad, 89–92; Pa. State, 92–93, 94–96; Yale, 98–99; *prof, Knox, 99–* Math. Soc.

Semple, Miss Ellen Churchill, 509 W. Ormsby Ave, Louisville, Ky. *Geography.* Louisville, 63. A.B, Vassar, A.M, 91; Leipzig, 91–92, 95. Assoc. ed, 'Jour. of Geog.' Geog. Ass. Anthropogeography.

Senior, Dr. H(arold) D(ickinson), 3331 Chestnut St, Philadelphia, Pa. *Anatomy.* Croydon, England, Oct. 30, 70. Ramsgate Col, England, 79–87; Charing Cross Hosp. Med. Sch, 87–92; M.B, Durham, 92; M.R.C.S, L.R.C.P, 92; Durham, 93–95; F.R.C.S, 95. Asst. demonstrator *anat,* Durham, 93–94; demonstrator, Charing Cross Hosp. Med. Sch, 95–96; Medico-Chirurg. Col, Phila, 01–03; *junior assoc, Wistar Inst, Phila, 04–* Ass. Anat. The heart and circulation.—Development of the blood vascular system in the shad.

Serviss, Garrett P(utman), 8 Middagh St, Brooklyn, N. Y. *Astronomy, Geology.* Sharon Springs, N. Y, March 24, 51. B.S, Cornell, 72; LL.B, Columbia, 74. Ed. writer on N. Y. Sun until 92; *writer and lecturer on travel, hist. and astron, 92–* Astron. and Astrophys. Soc; Brooklyn Inst. (pres, Dept. Astron, 95–).

Setchell, Prof. W(illiam) A(lbert), University of California, Berkeley, Cal. **Cryptogamic botany.* Norwich, Conn, April 15, 64. A.B, Yale, 87; fellow, Harvard, 87–88, A.M, 88, Ph.D, 90. Asst. biol, Harvard, 88–91; Yale, 91–92, instr, 92–95, asst. prof. *bot,* 95; *prof, California, 95–* Instr. bot, Woods Hole, 90–95. Cal. Acad. (bot. ed. and mem. Pub. Committee, 01–03); Wash. Acad. Classification and geographical distribution of the Laminariaceae of North America; the Algae of the northwest coast of North America; regeneration among kelps.—Parasitism of certain red Algae; thermal Algae; Algae of North America.

Sever, Prof. George F(rancis), Columbia University, New York, N. Y. *Electrical engineering.* Cambridge, Mass, July 30, 66. Mass. Inst. Tech, 87. Instr. *elec. eng, Columbia,* 93–01, adj. prof, 01–05, *prof, 05–* Consulting elec. engineer, Dept. of Water Supply, Gas and Elec, N. Y, 02; supt. elec. exhibits, Pan-Am. Expos, 01; mem. Elec. Light Commission, N. Y. City. Hon. M.S, Columbia, 05. M.A.A; Elec. Eng. (manager, past v. pres.); Eng. Educ. Engineering projects of an electrical nature.—Engineering investigation to ascertain the cost of operation of electric elevators.

Sewall, Rev. Frank, 1618 Riggs Place, Washington, D. C. *Philosophy, Psychology.* Bath, Me, Sept. 24, 37. A.B, Bowdoin, 58; Tübingen, 60; Berlin, 61; A.M, Bowdoin, 62. *Clergyman, New Church, 62–* D.D, Bowdoin, 02. Philos. Ass;

Wash. Soc. Philos. Inquiry; Me. Hist. Soc; Swedenborg Sci. Ass. (pres.). Philosophy and theology of Emanuel Swedenborg and their place and relation in philosophical development. —Swedenborg's doctrine of discrete degrees and their correspondences and its bearing on evolution, psychophysics and religion.

Sewall, Dr. Henry, 1360 Vine St, Denver, Colo. **Medicine, Physiology.* Winchester, Va, May 25, 55. B.S, Wesleyan, 76; fellow, Hopkins, 78–79, Ph.D, 79. Asst. and assoc. biol, Hopkins, 76–81; *prof. physiol,* Michigan, 82–89; *Denver, 90–* Asst. health commissioner, Denver, 91–93; sec'y, Colo. State Board of Health, 93–99. Hon. M.D, Michigan, 88; Denver, 89. Am. Physicians; Physiol. Soc; Am. Med. Ass; Climat. Ass; Colo. Med. Soc; Denver Acad. Med. (pres, 03–05); Denver City and Co. Med. Soc. Physiology; internal medicine.

Seymour, A(rthur) B(liss), 26 University Museum, Cambridge, Mass. *Botany.* Moline, Ills, Jan. 3, 59. B.S, Illinois, 81, M.S, 86. Botanist, Ills. State Lab. Nat. Hist, 81–84; instr. bot, Wisconsin, 85–86; *asst, Crypt. Herbarium, Harvard, 86–* Ed. crypt. bot. (A–G), 'Century Dict,' 88, chief ed. econ. fungi, 90– Fel. Am. Acad; assoc. Torrey Bot. Club. Parasitic fungi; bibliography of North American fungi.

Seymour, Paul H(enry), 6039 Kimbark Ave, Chicago, Ills. *Chemistry.* La Porte, Ind, July 25, 69. B.S, Michigan, 92, M.S, 93; Heidelberg and Berlin, 95–96. Instr. chem, Lake Forest, 93–95; teacher chem. and physics, High Sch, Detroit, Mich, 96–98; *consulting chemist and assayer, 98–* F.A.A; Chem. Soc.

Shack, Ferdinand, 52 Wall St, New York, N. Y. *Mathematics, Law.* Toronto, Can, Aug. 17, 56. Upper Canada, 65–69; A.B, B.S, Col. City of N. Y, 74; B.L, Columbia, 76; A.M, Col. City of N. Y, 77. Delegate, Universal Cong. Lawyers and Jurists, St. Louis, 04. Am. Bar Ass; Math. Soc; Acad. Polit. and Social Sci; N. Y. State Bar Ass; N. Y. Bar Ass. History and philosophy of mathematics.

Shafer, J(ohn) A(dolph), Bronx Park, New York, N. Y. *Botany.* Pittsburg, Pa, Feb. 23, 63. Ph.G, Western Univ. of Pa, 83. Asst. bot, Dept. Pharmacy, Western Univ. of Pa, 91–96; custodian bot, Carnegie Mus, Pittsburg, 97–03; *custodian of the Mus, N. Y. Bot. Garden, 03–* Hon. Pharm.D, Western Univ. of Pa, 04. M.A.A; Western Pa. Bot. Soc; Torrey Bot. Club; Pittsburg Acad. Flora of Pennsylvania and Cuba.

Shaler, Prof. N(athaniel) S(outhgate), 25 Irving St, Cambridge, Mass. **Geology.* Campbell Co, Ky, Feb. 21, 41. B.S, Harvard, 62, Sc.D, 75. Instr. zool. and geol, *Harvard,* 68–72, *prof.* paleont, 69–88, *geol, 88–, dean, Lawrence Sci. Sch, 91–* Director, Ky. Geol. Surv, 73–79; geologist, U. S. Geol. Surv, 86–00. LL.D, Harvard. Geol. Soc. (past pres.); fel. Am. Acad; Nat. Geog. Soc; Wash. Acad. Geology.—Shore lines (oceanic); volcanoes; glaciology.

Shantz, Dr. H(omer) L(eRoy), University of Missouri, Columbia, Mo. *Botany, Zoology.* Kent Co, Mich, Jan. 24, 76. B.S, Colo. Col, 01; Ph.D, Nebraska, 05. *Instr.* bot. and zool, Colo. Col, 01–02; *bot,* Sch. of Agr, Nebraska, 03–04; *Missouri, 05–* Instr, Colo. Teachers' Inst, Colorado Springs, 02. F.A.A; Micros. Soc. The plains and foot-hills formations; biological study of the lakes in the Pikes Peak region; North American Branchinecta and their habitats.

Share, Dr. William W(aldemar), 331 McDonough St, Brooklyn, N. Y. *Chemistry.* Brooklyn, March 8, 59. Ph.B, Columbia, 81, Ph.D, 84. Asst. physics, Columbia, 81–89; *prof. chem. and geol, Adelphi, 89–* Supt, Columbia Chem. Works, 81; consulting elec. engineer, Brooklyn Park Dept, 89; business agent, Adelphi, 01. Chem. Soc. Electrochemistry.

Sharp, Dr. Clayton H(alsey), White Plains, N. Y. *Physics, Electrical engineering.* Seneca Falls, N. Y, Dec. 5, 69. A.B, Hamilton, 90; Ph.D, Cornell, 95; Leipzig, 99–00. Teacher science, Union Sch, Lyons, N. Y, 90–92; instr. physics, Cornell, 94–01; *test officer, Elec. Testing Laboratories, New York, 01–* F.A.A; Physical Soc; assoc. Elec. Eng; Soc. Int. des Elec. Photometry; bolometry.—Electrical measurements.

Sharp, Dr. Frank Chapman, 27 Mendota Court, Madison, Wis. *Philosophy.* West Hoboken, N. J, July 30, 66. A.B, Amherst, 87; Ph.D, Berlin, 92. Instr. *philos, Wisconsin,* 93–96, asst. prof, 96–04, assoc. prof. 04–05, *prof, 05–* Philos. Ass; Wis. Acad. (sec'y, 99–01). Ethics.—The psychology of the moral judgment.

Sharpe, Benjamin F(ranklin), Greenwich, N. Y. *Physics.* Cape May, N. J, Jan. 7, 64. A.B, Wesleyan, 87, A.M, 90; Hopkins, 91–93; Clark, 93–95, fellow, 96–97. Master, Beeman Acad, Vt, 81–82; asst. principal, Monson Acad, Mass, 85–86; adj. prof. physics and biol, Randolph-Macon, 87–91; prof. math, State Nor. Sch, New Paltz, N. Y, 95–96. M.A.A. Hydrodynamics and sound.—An absolute measure of the intensity of sounds; increase of sensitiveness of the mercurial barometer; a new barograph.

Sharpe, R(ichard) W(orthy), Wilmette, Ills. *Biology.* Tiskilwa, Ills, May 20, 69. B.S, Illinois, 93, M.S, 97. Principal, High Sch, Farmer City, Ills, 93–96; *instr.* biol. and physics, High Sch, Danville, Ills, 97–99; physics and chem, Dubuque, Ia, 99–00; *biol. and physics, New Trier High Sch, Winnetka, Ills, 00–* M.A.A; Chicago Acad. Fresh water Ostracoda of the United States; Ostracoda of the U. S. National Museum.—Ostracoda collected by the 'Albatross' expedition of 1902 and by biological stations of Stanford and California Universities; marine Ostracoda of the U. S. National Museum.

Sharples, Prof. Stephen P(aschall), 22 Concord Ave, Cambridge, Mass. **Chemistry.* West Chester, Pa, April 21, 42. Pa. State, 64–65; B.S, Harvard, 66. Asst. chem, Lehigh, 67–68; Lawrence Sci. Sch, Harvard, 68–72; *anal. and*

consulting chemist, 72–; prof. chem, Boston Dental Col, 75–93. State assayer of ores and metals, Mass, 72–92; expert, Tenth Census, 80; inspector and assayer of liquors, Mass, 84–92; judge, Columbian Expos, 93; ed, 'Gen. Quarterly Mag,' 04– F.A.A. (sec'y, Subsect. Micros, 81); Chem. Soc; Soc. Chem. Indust; Min. Eng; Pharmaceut. Ass; Philos. Soc; Am. Acad; Boston Soc. Nat. Hist; New Eng. Hist. Geneal. Soc; London Soc. Arts. Adulteration of food; methods of recovering caoutchouc from waste; genealogy.

Shattuck, Dr. F(rederick) C(heever), 135 Marlborough St, Boston, Mass. *Medicine.* Boston, Nov. 1, 47. A.B, Harvard, 68, A.M, 72, M.D, 73. *Visiting physician, Mass. Gen. Hosp, 84–; Jackson prof. clin. med, Harvard, 87–* F.A.A; Am. Physicians (pres, 99); fel. Mass. Med. Soc; Boston Soc. Med. Improv. Medicine.

Shattuck, Dr. George B(rune), 183 Beacon St, Boston, Mass. *Medicine.* Boston, Aug. 18, 44. A.B, Harvard, 63, A.M, 65, M.D, 69. Instr. clin. med, Harvard Med. Sch, 83–85. Overseer, Harvard, 90–01, 03–; visiting physician, Boston City Hosp; pres, Mass. Charitable Eye and Ear Infirmary; ed, 'Boston Med. and Surg. Jour.' Am. Physicians; Mass. Med. Soc; Boston Soc. Med. Improv. Medicine.

Shattuck, Dr. George B(urbank), Sudbrook Park, Md. *Geology.* Lowell, Mass, Sept. 28, 69. B.S, Amherst, 92; Ph.D, Hopkins, 97. Asst. *physiog. geol, Hopkins,* 97–98, instr, 98–99, assoc, 99–02, *assoc. prof, 02–* F.A.A. (sec'y, E, 04); Geol. Soc; Geog. Ass; cor. mem. Nat. Geog. Soc; cor. mem. Wash. Geol. Soc. Geology of the north Atlantic coastal plain.—Id; geology of the Bahamas.

Shattuck, Prof. S(amuel) W(alker), 1013 California Ave, Urbana, Ills. *Mathematics.* Groton, Mass, Feb. 18, 41. B.S, Norwich, 60, C.E, 71. Assoc. prof. math. and mil. science, 65–68; *prof. math. and head, Math. Dept, Illinois, 68–* V. pres, Illinois, 73–76. Hon. A.M, Norwich. F.A.A; Math. Soc; N. Y. Math. Soc.

Shaw, Prof. Charles Gray, University Heights, New York, N. Y. *Philosophy.* Elizabeth, N. J, June 23, 71. B.L, Cornell, 94; Ph.D, N. Y. Univ, 97; B.D, Drew Theol. Sem, 97; Jena and Berlin, 97–99. *Asst. prof. philos, N. Y. Univ, 99–* Butler lecturer comp. religion, N. Y. Univ. Philos. Ass. Ethics; philosophy of religion.

Shaw, Prof. Charles H(ugh), Collegeville, Pa. *Botany.* Delaware, O, July 14, 75. B.S, Ohio Wesleyan, 97, A.M, 98; Ph.D, Pennsylvania, 00. Instr. *bot,* Ohio Wesleyan, 95–97; *prof,* Temple, 98–03; *Sch. of Pharmacy, Medico-Chirurg. Col, Phila, 00–; biol, Ursinus, 03–* Lecturer, Woods Hole, 00–02. M.A.A; Soc. Plant Morph. and Physiol. Cleistogamy in Polygala; development of vegetation in morainal depressions; embryology of the Papaveraceae; vegetation of the Selkirks.

Shaw, Dr. G(eorge) W(right), University of California, Berkeley, Cal. *Agricultural chemistry.* Bradford, Vt, June 13, 64. A.B, Dartmouth, 87, A.M, 90. Prof. chem. and physics, Whitman, 87–89; Pacific, 89–91; chem, Ore. Agr. Col, and chief chemist, Exp. Sta, 91–00; state chemist, Ore, 91–00; chemist and agr. expert, Colo. Sugar Mfg. Co, 00–02; *asst. prof.* agr. chem, *California,* 02–04, *agr. tech, 04–* Hon. Ph.D, Willamette, 95. Chem. Soc; Ass. Off. Agr. Chemists. Sugar-beets; soils; foods; cereals.—Optical method of determining soil humus; effect of environment on the composition of the sugar-beet.

Shaw, Prof. H(oward) B(urton), Columbia, Mo. *Electrical engineering.* Winslow, Me, Aug. 8, 69. A.B, North Carolina, 90, B.C.E, 91; A.M, Harvard, 94. Instr. math, North Carolina, 89–90, math, surveying and drawing, 91–93; asst, Elec. Eng. Lab, Harvard, 94–96; asst. prof. *elec. eng, Missouri,* 96–99, *prof, 99–* Assoc. mem. Elec. Eng; Electrochem. Soc; St. Louis Eng. Club. Insulation; alternating current curves; single-phase alternating current motors; energy losses in magnetic materials; regulation of alternating current generators.

Shaw, Prof. James B(yrnie), Decatur, Ills. **Mathematics.* Remington, Ind, March 20, 66. B.S, Purdue, 89, M.S, 90. Sc.D, 93. *Prof. math,* Illinois Col, 90–98; Kenyon, 99–03; *James Millikin, 03–* Math. Soc; Int. Ass. Prom. Quaternions. Multiple algebra; linear associative algebra.—General algebra.

Shaw, Dr. Walter R(obert), P. O. Box 626, Stillwater, Okla. *Botany.* Galena, Ills, May 4, 71. Indiana, 88–91; A.B, Stanford, 92, A.M, 94, Ph.D, 97; Bonn, 97–98. Asst. biol, Pomona, 90–91; *prof. bot. and entom, Okla. Agr. and Mech. Col, and botanist and entomologist, Okla. Agr. Exp. Sta, 91–* Asst. bot, Stanford, 92–94, instr, 94–97; tutor, Barnard, Columbia, 98–99; asst, Div. Ethnol, Columbian Expos, 92; instr. bot, Seaside Lab, Hopkins, 93–97; Woods Hole, 98. F.A.A; Bot. Cent. States. Embryology and embryogeny of ferns and conifers; species of Volvocineae; spermatogenesis and fertilization in ferns and conifers.—Spermatogenesis of Cephalotaxus; life history of Marsiliaceae; practical methods of breeding Ricinus.

Shea, Prof. Daniel W(illiam), Catholic University, Washington, D. C. **Physics.* Portsmouth, N. H, Nov. 27, 59. A.B, Harvard, 86, A.M, 88; Ph.D, Berlin, 92. Asst. *physics,* Harvard, 89, 92; asst. prof, Illinois, 92–93, *prof,* 94–95; *Catholic, 95–,* gen. sec'y, 97–03. Mem. N. H. Legislature, 86–88. M.A.A; Physical Soc; Elec. Eng; Boston Math. and Physical Club. Electricity; light.—Light.

Shear, C(ornelius) L(ott), U. S. Department of Agriculture, Washington, D.C. **Phytopathology, Mycology.* Coeymans Hollow, N. Y, March 26, 65. B.S, Nebraska, 97, A.M, 01. Asst. agrostologist, *U. S. Dept. Agr,* 98–01, asst. pathologist, 01–02, *pathologist, 02–* Ed, 'Asa Gray Bul,' 98–00; assoc. ed, 'The Plant World,' 00–05; ed. and publisher, 'N. Y. Fungi Exsiccati.'

F.A.A; Mycol. Soc; Wash. Biol. and Bot. Societies. Grass and forage plant problems and plant diseases.—Diseases of cranberries; cotton root-rot; systematic mycology.

Shearer, Dr. J(ohn) S(andford), 608 E. Seneca St, Ithaca, N. Y. **Physics.* New York, N. Y, Oct. 20, 65. B.S, Cornell, 93, Ph.D, 01. Teacher, Homer Acad, 87–88; instr. *physics, Cornell,* 93–03, *asst. prof, 03–* Special lecturer, Summer Sch, Cornell. M.A.A; Physical Soc. Effect of temperature on tuning-forks; electrostriction; heat of vaporization; liquid air; oxygen; nitrogen; specific heat of air; other low temperature work.—Coefficient of expansion at low temperature; dielectric strain.

Shedd, Prof. J(ohn) C(utler), 1103 Wood Ave, Colorado Springs, Colo. *Physics.* Urmia, Persia, June 30, 68. A.B, Princeton, 91; M.S, Cornell, 92; fellow, Wisconsin, 97–99, Ph.D, 99. Prof. *physics,* Marietta, 93–97; instr, Wisconsin, 99–00; *prof, Colo. Col, 00–* M.A.A; Physical Soc; Astron. and Astrophys. Soc; Elec. Eng. Radiation in magnetic field; elasticity of rubber.—Observations on forms of snow crystals at high altitudes; radio-activity of spring waters.

Shedd, Prof. S(olon), Pullman, Wash. *Geology, Mineralogy.* Mercer Co, Ills, May 25, 60. B.S, Monmouth, 89; A.B, Stanford, 96. Instr. nat. science, Ore. State Nor. Sch, 90–94; asst. prof. *geol. and miner, Wash. Agr. Col,* 96–01, *prof, 01–* Geologist, Wash. Geol. Surv. M.A.A; Geol. Soc; Min. Eng. Iron ores of Washington; building and ornamental stones of Washington.—Clay and clay industries of Washington; metamorphic rocks of the Santa Cruz Quadrangle, Cal.

Sheldon, Edmund P, Lewis and Clark Exposition, Portland, Ore. *Botany.* Bowling Green, Mo, Aug. 9, 69. B.S, Minnesota, 94. Instr. bot, Minnesota, 94-97; special agent for bot. exploration in eastern Oregon, U. S. Dept. Agr, 97; *supt. forestry for State of Oregon,* La. Purchase Expos, 04; *Lewis and Clark Expos, 05–* Minn. Acad. North American species of Astragalus, —Indigenous plants of the Pacific slope, especially the Leguminosae, Orchidaceae and Liliaceae; forestry.

Sheldon, Prof. Henry D(avidson), 374 E. 11th St, Eugene, Ore. *Pedagogy.* Salt Lake City, Utah, Oct. 3, 74. A.B, Stanford, 96, A.M, 97; Ph.D, Clark, 00. *Asst. prof. philos. and educ, Oregon, 02–* Lecturer hist. of educ, Summer Sch, Clark, 99. History of student societies; elementary method; the educational awakening in America; children's voluntary societies.—Bibliography of the educational awakening in the United States, 1800–1850; history of the teaching profession.

Sheldon, Prof. John L(ewis), West Virginia University, Morgantown, W. Va. *Botany, Entomology, Agriculture.* Voluntown, Conn, Nov. 10, 65. B.S, B.Ped, Ohio North. Univ, 95, M.S, 99; B.S, Nebraska, 99, A.M, 01, fellow, 00–03, Ph.D, 03. Teacher, Conn. pub. schools, 85–90; Mt. Hermon Sch, 92–94; pub. sch, Southington, 95–97; Prep. Sch, Nebraska, 98–99; Nebr. State Nor. Sch, 99–00; instr. bot, Nebraska, 00–03; *prof. bacter, West Virginia, and bacteriologist, W. Va. Exp. Sta, 03–* Collaborator, veg. path. and physiol. investigations, Bur. Plant Indust, U. S. Dept. Agr, 02–03. F.A.A; Nebr. Acad. Vegetable pathology and physiology.—Rusts of asparagus and carnation; parasitism of Darluca filum; cultures of Empusa; diseases of melons and cucumbers; ripe-rot of the guava; cane-blight of the rose.

Sheldon, Dr. Samuel, Polytechnic Institute, Brooklyn, N. Y. **Physics.* Middlebury, Vt, March 8, 62. A.B, Middlebury, 83, A.M, 87; Ph.D, Würzburg, 88. Instr. math, Middlebury, 84–85; asst. physics, Würzburg, 87–88; Harvard, 88–89; *prof. physics and elec. eng, Brooklyn Polytech, 89–* Expert, Swiss Dept. Justice and Police, 03–; mem. Elec. Jury of Awards, La. Purchase Expos, 04. Int. Elec. Cong, St. Louis, 04 (sec'y, Sect. B). F.A.A; Physical Soc; Elec. Eng. (manager, 98–01, 03–, v. pres, 01–); Electrochem. Soc. (manager, 02–); Electrotherapeut. Soc; N. Y. Elec. Soc. (pres, 02); Brooklyn Inst. Electromagnetism; electrochemistry.—Alternating current electrolysis; an electromagnetic coulomb standard; high frequency discharges; electrostatics.

Sheldon, Dr. W(ilmon) H(enry), Princeton University, Princeton, N. J. *Philosophy.* Newton, Mass, April 4, 75. A.B, Harvard, 95, A.M, 96, Ph.D, 99. Asst. philos, Wisconsin, 99–00; teaching fellow, Harvard, 00–01; asst. *philos,* Columbia, 01–03, tutor, 03–05; *preceptor, Princeton, 05–* Int. Cong. Arts and Science, St. Louis, 04 (sec'y, Sect. Logic). M.A.A; Philos. Ass; N. Y. Acad. Logic.

Shelton, E(dward) M(ason), 2904 Franklin Ave, Seattle, Wash. *Agriculture.* Hilton, England, Aug. 7, 46. B.S, Mich. Agr. Col, 71, M.S, 74. Teacher agr, Japanese Govt, 72; prof, Kas. State Agr. Col, 74–89; instr. to Govt. of Queensland, Australia, 89–98; principal, Queensland Agr. Sch, 98–99; *mine operator, Alaska and British Columbia.* Director, Kas. Exp. Sta, 88–89. F.A.A; Soc. Prom. Agr. Sci. Experiments in stock feeding and in the growth of grains and grasses.

Shepard, Dr. Edward M(artin), 1403 Benton Ave, Springfield, Mo. *Geology.* Winsted, Conn, May 15, 54. A.M, Williams, 81. Curator, Mus, Roanoke, 78; *prof. biol. and geol,* Waynesburg, 78; *Drury, 79–, dean, Col. Faculty, 03–* Acting pres, Drury, 93–94; mem. Board of Managers, Mo. Geol. Surv, 93–95, asst, 94–97, v. pres, Board of Managers, 01; acting state geologist, Mo, 01; field asst, U. S. Geol. Surv, 03– Hon. Sc.D, Waynesburg, 02. Geol. Soc; Min. Eng; Min. Cong; Nat. Geog. Soc; State Soc. Sons of the Revolution (historian). Origin of land and zinc deposits; asphalt and petroleum.—Devonian rocks of Missouri; asphalt and petroleum; hydrology of Missouri.

Shepard, Dr. William K(ent), 17 Whalley Ave, New Haven, Conn. *Physics, Mathematics.* Adams, N. Y, Oct. 19, 75. Ph.B, Yale, 97, Ph.D, 00. Asst. physics, *Yale,* 98–00, *instr.* math, 00–01, *mech, 01–* Electricity; solutions for copper voltameter.

Shepardson, Prof. Geo(rge) D(efrees), University of Minnesota, Minneapolis, Minn. *Electrical engineering.* Cincinnati, O, Nov. 20, 64. A.B, Denison, 85; Ohio State, 85–86; A.M, Denison, 88; M.E, Cornell, 89. Instr. sciences, Shepardson Col, Granville, O, 86–87; elec. engineer, Boston Edison Co, 87–88; Akron Elec. Mfg. Co, 89; instr. physics, Cornell, 90–91; asst. prof. *elec. eng, Minnesota,* 91–92, *prof, 92–* Mem. Jury of Awards, Pan-Am. Expos, 01; La. Purchase Expos, 04. Elec. Eng. (chairman, Minn. Branch, 02–); Ass. Eng. Societies (past pres, Board of Managers); Eng. Educ; Nat. Elec. Light Ass; Northwest. Elec. Ass; Northwest. Ry. Club; Minneapolis Eng. Club. Electric lighting, especially for railway trains; telephone disturbances; electricity directly from heat; efficiency of train lighting systems; electric headlights.—Incandescent lamps; gas engines for electric driving; single-phase motors.

Shepherd, E(arnest) S(tanley), Geophysical Laboratory, Carnegie Institution, Washington, D. C. *Physical chemistry.* Remington, Ind, March 30, 79. Indiana, 97–00; A.B, Cornell, 02. Private asst. to Prof. Wilder D. Bancroft, 02–03; asst. electrochem, Cornell, 03–04, research asst, 03–05; *asst, Geophys. Lab, Carnegie Inst, 04–* Alloy expert, Indust. Laboratories, N. Y. Chem. Soc; Wash. Philos. Soc. Alloys; high temperature work on minerals.—Application of physical chemistry to rock magmas.

Shepherd, Prof. Francis J, 152 Mansfield St, Montreal, Can. *Anatomy, Surgery, Dermatology.* Vandreuil Co, Que, 51. M.D, McGill, 73, C.M, 74; St. Thomas Hosp, London, 74; Marburg and Vienna, 74–75; Paris; F.R.C.S, Edinburgh. Demonstrator *anat, McGill,* 75–83, *prof, 83–; surgeon, Montreal Gen. Hosp, 83–* LL.D, Edinburgh, 05. Int. Dermat. Cong, London, 96 (v. pres). Ass. Anat; fel. Surg. Ass; Dermat. Ass. (pres, 00); Can. Med. Ass. (pres, 02); Montreal Medico-Chirurg. Soc. (pres, 90). Significance of human anomalies; anatomy of the black bear; the musculus sternalis and its nerve supply; surgery of thyroid gland.—Operation as a curative measure in the treatment of goitre; causes and treatment of intestinal obstruction.

Shepperd, Prof. J(ohn) H(enry), Agricultural College, N. Dak. *Agriculture.* Chariton, Ia, Jan. 12, 69. Drake, 87–88; B.Agr, Iowa State, 91; M.S.A, Wisconsin, 93. On ed. staff, 'Orange Judd Farmer,' 93; prof. agr, *N. Dak. Agr. Col,* and agriculturist, *Agr. Exp. Sta,* 93–04, *dean and v. director, 04–* Gold medal, Paris Expos. M.A.A; Soc. Prom. Agr. Sci. Animal nutrition; plant breeding.

Sherman, Prof. F(rank) A(sbury), Hanover, N. H. *Mathematics.* Knox, Me, Oct. 4, 41. B.S, Dartmouth, 70, M.S, 75. Instr. *math,* Worcester, 70–71; assoc. prof, Chandler Sci. Sch, Dartmouth, 71–72, *prof,* 72–93, *Dartmouth, 93–* Corporal, Fourth Me. Vols, 62–64; 19th Me. Vols, 64–65. Nat. Geog. Soc; Wash. Acad.

Sherman, Prof. Franklin, Jr, Ontario Agricultural College, Guelph, Can. *Entomology.* Ashgrove, Va, Nov. 2, 77. B.S.Agr, Cornell, 00. Student asst. to entomologist, Md. Exp. Sta, 97–98; nursery inspector, Wis, 99; instr. entom, N. C. Col. Agr. and Mech. Arts, entomologist, N. C. Exp. Sta, N. C. Dept. Agr. and N. C. Crop Pest Commission, 00–05; *prof. entom, Ont. Agr. Col, 05–* Instr. nature study, Cornell, summer, 00. M.A.A; Ass. Econ. Entom; N. C. Acad. (sec'y); N. C. Hort. Soc. (sec'y). General entomology.—Insect fauna of Ontario.

Sherman, Dr. H(enry) C(lapp), Columbia University, New York, N. Y. *Chemistry.* Ash Grove, Va, Oct. 16, 75. B.S, Md. Agr. Col, 93; A.M, Columbia, 96, Ph.D, 97. Asst. chem, Md. Agr. Col, 93–95; nutrition investigations, U. S. Dept. Agr, 98–99; *anal. chem, Columbia,* 97–98, lecturer, 99–01, instr, 01–05, *adj. prof, 05–* Asst. chemist, Columbian Expos, 93; instr, Summer Sch, Wesleyan, 02; summer session, Columbia, 04– M.A.A; Chem. Soc; Soc. Exp. Biol. and Med. Investigations of analytical methods; chemistry of foods and nutrition.

Sherrill, Dr. Miles S(tandish), Massachusetts Institute of Technology, Boston, Mass. *Chemistry.* Louisville, Ky, Aug. 2, 77. B.S, Mass. Inst. Tech, 99, fellow, 00–02 (Leipzig, 00–01); Ph.D, Breslau, 03. Asst. *anal. chem, Mass. Inst. Tech,* 99–00, *instr, 03–* Special lecturer constitution of alloys, Research Dept, Mass. Inst. Tech, 04–05. Chem. Soc. Uber die Komplexbildung und einige physikochemische Konstanten der Quecksilberhaloide; mercury sulphocyanate complexes.—The conductivity of mixed salt solutions.

Sherwood, Prof. Andrew, Mansfield, Pa. *Geology, Mineralogy, Paleontology.* Mansfield, Pa, July 16, 48. Chicago, 68. Asst. state geologist, Second Pa. Geol. Surv, 75–77; *U. S. deputy mineral surveyor.* With Geol. Surveys of Ohio and New York under J. S. Newberry and James Hall; in charge Pa. exhibit, Columbian Expos, 93; exped. to the Yukon, 98. Philos. Soc; cor. mem. N. Y. Acad. Structural geology.—Mineral deposits of North America.

Sherzer, Prof. W(illiam) H(ittell), Ypsilanti, Mich. *Geology, Paleontology.* Franklin, O, Sept. 6, 60. B.S, Michigan, 89, M.S, 90, Ph.D, 01; Berlin, 00–01. Instr. geol. and paleont, Michigan, 91–92; *prof. nat. science, Mich. State Nor. Col, 92–* Instr. nature study, Chautauqua, three years; field instr. geol, Nat. Sci. Camp, Canandaigua, N. Y, four years; in charge Smithsonian Glacial Exped, Canadian Rockies and Selkirks, summer, 04. Geol. Soc; Mich. Acad. (past pres.). Fossil corals; glacial geology; Canadian glaciers.—Geological survey of Wayne County, Mich.

Shidy, L(eland) P(erry), 1617 Marion St, N. W, Washington, D. C. *Mathematical physics.* St. Louis, Mo, July 27, 51. Missouri, 70–72; Columbian, 85–87. *Computer, U. S. Coast and Geod. Surv, 73–, chief, Tidal Div, 97–* M.A.A; Nat. Geog. Soc; Wash. Philos. Soc. Tides and tidal phenomena.

Shimek, Prof. B(ohumil), 529 Brown St, Iowa City, Ia. *Botany.* Near Shueyville, Ia, June 25, 61. C.E, Iowa, 83, M.S, 02. Instr, Iowa City Acad, 83–85; High Sch, Iowa City, 85–88; zool, Nebraska, 88–90; bot, *Iowa,* 90–96, asst. prof, 96–02, *prof, Col. of Pharmacy,* 96–02, *physiol. bot, 02–* Special field work, U. S. Bur. Forestry, 99–03. F.A.A; Soc. Nat; Bot. Cent. States; Forestry Ass; Geol. Soc; Iowa Acad; cor. mem. Davenport Acad; Iowa Park and Forestry Ass. Ferns; liverworts; plant ecology; forestry in Iowa; New Mexican desert floras; the loess.—Plant distribution in Iowa; starch in the plant; the fauna and origin of the loess; the history of xerophytes.

Shimer, Dr. H(ervey) W(oodburn), Massachusetts Institute of Technology, Boston, Mass. *Geology.* Martin's Creek, Pa, April 17, 72. Gettysburg, 91–93; A.B, Lafayette, 99, A.M, 01; Ph.D, Columbia, 04; Harvard, 04–05. Tutor modern lang, Lafayette, 99–01; asst. paleont, Columbia, 01–03; non-res. lecturer *stratig. geol, Mass. Inst. Tech,* 03, *instr, 03–* M.A.A; Boston Soc. Nat. Hist. Stratigraphy; paleontology.—Old age in brachiopods; stratigraphic work in central New York.

Shimer, Dr. Porter W(illiam), Paxinosa Ave, Easton, Pa. **Chemistry.* Shimerville, Pa, March 13, 57. E.M, Lafayette, 78, Ph.D, 99. Chief chemist, Thomas Iron Co, 78–79; chief asst. in Chem. Lab. of Dr. Thomas M. Drown, 79–85; *proprietor, Chem. and Metal. Lab, 85–* Res. lecturer on iron and steel, Lafayette, 94–02. John Scott medal and premium, 01. Mem. Int. Steel Standards Committee. F.A.A; Chem. Soc; Min. Eng; Franklin Inst. Methods and apparatus used in analytical chemistry; application of chemistry to metallurgical problems; discovered titanium carbid.—A new system of filtration in quantitative chemical analysis; metallurgy.

Shinn, Dr. M(ilicent) W(ashburn), Niles, Cal. *Psychology, Pedagogy.* Niles, April 15, 58. A.B, California, 80, Ph.D, 98. Teacher, pub. schools, 75–76; ed, 'San Francisco Commercial Herald,' 79–81; teacher, pub. schools, 81–82; ed, 'Overland Monthly,' 83–94. Mem. Advisory Council on Educ. Congresses, Columbian Expos, 93; chairman, Child-study Cong, Midwinter Fair, San Francisco, 94. Wash. Women's Anthrop. Soc. Development of the senses in infancy; development of instinctive movements; primary education.—Development of memory and association in infancy.

Shinn, Dr. Owen Louis, 1714 Willington St, Philadelphia, Pa. *Chemistry.* Philadelphia, July 30, 71. B.S, Pennsylvania, 93, Ph.D, 96. Instr. *chem, Pennsylvania,* 93–05, *asst. prof, 05–* Chem. Soc. Atomic weight of tungsten; some observations on molybdenum; complex thiosulphates.—Some vanadium compounds.

Shirres, Prof. D(avid) A(lexander), 919 Dorchester St, Montreal, Can. *Neurology.* Aberdeen, Scotland, March 14, 66. M.B, Aberdeen, 87, C.M, M.D, 90. Asst. clin. neurologist, Royal Victoria Hosp, Montreal, 00–04; *prof. neur, Vermont, 01–; lecturer path, McGill, 03–; consulting neurologist, Protestant Hosp. for Insane Verdun, Montreal, 03–; neurologist, Montreal Gen. Hosp, 04–* Hon. surgeon, Rutland R. R. Ass. Path. and Bact; Boston Soc. Psychiat. and Neur; British Med. Ass. Neurology; neuropathology; subacute degenerations of the spinal cord resulting from various toxins; different forms of pressure paralysis; regeneration in the spinal cord of man.—Vasomotor, trophic and neuromuscular diseases.

Short, Prof. R(obert) L(ouis), Urbana, Ills. *Mathematics.* Danville, Ills, Sept. 18, 66. A.B, Chaddock, 90; Illinois; Northwestern; Munich, 97–98. Tutor math, Wesleyan Sem, 85–87; instr, Chaddock, 87–90, prof, 93–94; v. pres. and prof. *math,* Ft. Worth, 94–97; instr, High Sch, Quincy, Ills, 98–99; *Illinois,* 00–01, *asst. prof, 01–* Eng. Educ. Modern geometry.—Classification of integrals.

Shreve, Dr. Forrest, Johns Hopkins University, Baltimore, Md. *Botany.* Easton, Md, July 8, 78. A.B, Hopkins, 01, Ph.D, 05, Bruce fellow, 05–06. Instr. in charge phanerogamic bot, Biol. Lab, Cold Spring Harbor, 04–05. Development of Sarracenia.—Transpiration and moisture relations of vegetation in mountain forests of Jamaica; a botanical survey of Maryland.

Shufeldt, Dr. R(obert) W(ilson), 471 W. 145th St, New York, N. Y. **Zoology, Biology.* New York, Dec. 1, 50. Cornell, 74; M.D, Columbian, 76. Capt.'s clerk and signal officer, U. S. N, 64, hydrographer, Hydrog. Office, 74; lieut, Med. Dept, U. S. A, 76–81, capt, 81–04, major, 04, retired, 04. Hon. curator, Smithsonian Inst, 82–83; in charge, Dept. Comp. Anat, U. S. Army Med. Mus, 83; assoc. zool, Smithsonian Inst; ed. nat. hist. departments of several magazines and journals; judge, Columbian Expos, 93. Fel. Ornith. Union; N. Y. Medico-Legal Soc. (trustee); cor. mem. London Zool. Soc; Soc. Ital. d'Antrop, Etnol. e Psicol. comp; l'Alliance scientifique universelle. Anatomy of vertebrates; psychological phenomena; biology; exploration; a classification of birds; osteology of various groups of birds; studies of the human form; anatomy of Vertebrata.—Game mammals of United States.

Shute, Dr. D(aniel) Kerfoot, 1719 De Sales St, N. W, Washington, D. C. *Anatomy, Ophthalmology.* Alexandria, Va, Oct. 22, 58. A.B, Columbian, 79. M.D, 83; Royal Ophthal. Hosp, London, 88–89. Prosector to chair of *anat, George Washington,* 86–87, lecturer, 87–88, *prof, 88–* M.A.A; Ass. Anat; Am. Med. Ass; D. C. Med. Ass; D. C. Med. Soc; Wash. Acad; Wash.

Anthrop. Soc. Human and comparative anatomy of the nervous system.

Shutt, F(rank) T(homas), Experimental Farm, Ottawa, Can. *Agricultural chemistry.* London, England, Sept. 15, 59. A.B, Toronto, 85, A.M, 86. Demonstrator chem, Toronto, 85–87; *chemist, Dominion Exp. Farms, 87–* F.A.A; Chem. Soc; fel. Can. Royal Soc; fel. London Chem. Soc; fel. Inst. Chem. of Gt. Britain and Ireland. Rational means of maintaining and increasing soil fertility; conservation of soil moisture; etc.—Plant and animal physiology.

Sias, Dr. Solomon, Schoharie, N. Y. *Geology, Meteorology.* Danville, Vt, June 13, 29. Wesleyan, 50–51; A.M, Middlebury, 56; M.D, Vermont, 59. Teacher science, Fort Edward Inst, N. Y, 54–59; principal, Bonham Female Inst, 59–66; N. Y. Conference Sem, 66–74; Schoharie Acad, 74–00. Pres, Soule, 78–79. F.A.A; Nat. Geog. Soc; Schoharie Co. Med. Soc; Schoharie Co. Hist. Soc. Geology; meteorology.

Sickels, Dr. Ivin, West Nyack, N. Y. *Chemistry, Physics.* Nyack, N. Y. B.S, Col. City of N. Y, 74, M.S, 78; M.D, N. Y. Univ, 83. *Asst. prof. nat. hist, Col. City of N. Y, 97–; chem. and physics, Med. Col, Cornell, 00–* M.A.A; Chem. Soc; fel. N. Y. Acad; N. Y. Micros. Soc.

Sidis, Dr. Boris, 41 University Road, Brookline, Mass. *Psychology, Psychopathology.* Russia, Oct. 12, 67. A.B, Harvard, 94, A.M, 95, Ph.D, 97. Assoc. psychol. and psychopath, Path. Inst, N. Y. State Hospitals, 96–01; director, Psychopath. Hosp. and Psychopath. Lab, N. Y. Infirmary for Women and Children, 01. Psychopath. Soc. (mem. Council, cor. sec'y). Psychology of suggestion; mental dissociation; hallucinations; memory; multiple personality.—Forms and nature of functional mental dissociation.

Sigerfoos, Prof. Cha(rle)s P(eter), 1206 Fifth St, S. E, Minneapolis, Minn. *Zoology.* Arcanum, O, May 4, 65. B.S, Ohio State, 89; Ph.D, Hopkins, 97. Instr. zool, Ohio State, 89–91; biol, Virginia, 91–92; asst. zool, Hopkins, 95–97; asst. prof. animal biol, *Minnesota,* 97–00, *prof. zool, 00–* Instr. embryol, Cold Spring Harbor. M.A.A; Soc. Nat. Ship-worms.

Sigsbee, Rear Admiral Charles Dwight, U. S. N, Navy Department, Washington, D. C. *Naval art and science.* Albany, N. Y, Jan. 16, 45. Grad, U. S. Naval Acad, 63. Ensign and later lieut, lieut. commander, commander, capt, *rear admiral, U. S. N, 59–* Coast and Geod. Surv, 74–78; chief hydrographer, Navy Dept, 93–97, chief, Intelligence Office, commander, League Isl. Navy Yard and Naval Sta, Phila. Red Eagle of Prussia from William I. F.A.A; Nat. Geog. Soc; Philos. Soc. Naval art and science; practise and economy of deep-sea dredging; hydrography; meteorology.—Naval tactics and strategy.

Sill, Dr. Herbert F(owler), College of the City of New York, New York, N. Y. *Physical chemistry.* Geneseo, N. Y, March 7, 72. B.S, Princeton, 94, M.S, 96; Göttingen, 00–01; Ph.D, Leipzig, 04. Instr. anal. chem, Princeton, 96–00, 01–03; *Carnegie research asst. to Prof. Baskerville, 05–* Chem. Soc; Chem. Gesell. The equilibria between nitrogen bases and organic acid in various solvents.

Silloway, P(erley) M(ilton), Lewiston, Mont. *Ornithology.* Waverly, Ills, April 11, 63. High Sch. *Principal,* High Sch, Virden, Ills, 87–94; Roodhouse, Ills, 94–97; *Fergus Co. High Sch, Mont, 97–* M.A.A; mem. Ornith. Union; Wilson Ornith. Club; Cooper Ornith. Club; Mich. Ornith. Club; Mont. Acad; Wash. Biol. Soc. Life histories of birds.—Distribution of Montana birds.

Simms, S(tephen) C(hapman), 476 Kenwood Terrace, Bryn Mawr, Chicago, Ills. *Ethnology.* Georgetown, D. C, March 22, 63. Private schools. *Asst. curator* industrial arts, *Field Columbian Mus,* up to 94, *Div. Ethnol, 94–* Portuguese vice consul, Chicago, 92–; asst. sec'y and in charge, Dept. of Foreign Affairs, Columbian Expos, representative of Sultan of Johore; ethnologist in charge, Sect. Ethnol, Dept. Anthrop, La. Purchase Expos, 04. Anthrop. Ass; Folk-lore Soc. Ethnology of the North American aborigines.

Simon, Dr. Charles E(dmund), 1302 Madison Ave, Baltimore, Md. *Medicine.* Baltimore, Sept. 23, 66. A.B, Hopkins, 88; M.D, Maryland, 90; Paris, 91–92. Asst, Dispensary, Hopkins Hosp, 89–90, asst. res. physician, 90–91; *prof. clin. diagnosis, Baltimore Med. Col, 05–* Am. ed, 'Folia Hæmatologica.' Physiol. Soc; Md. Med. and Chirurg. Faculty. Physiological and pathological chemistry; clinical laboratory methods; experimental hematology.—Sulphur metabolism.

Simon, Prof. W(illiam), Catonsville, Md. *Chemistry.* Eberstadt, Germany, Feb. 20, 44. Ph.D, Giessen, 69. Demonstrator chem, Giessen, 69–70; *chemist, Baltimore Chrome Works, 70–; prof.* chem. and anal. chem, Md. Col. of Pharmacy, 72–02; *chem, Col. Physicians and Surg, Baltimore, 80–; Baltimore Col. Dent. Surg, 88–* F.A.A; Chem. Soc; Chem. Gesell. Chromite and its conversion into alkali chromates on a large scale.

Simonds, Prof. Frederic W(illiam), University of Texas, Austin, Tex. *Geology.* Charlestown, Mass, July 3, 53. B.S, Cornell, 75, M.S, 76; Ph.D, Syracuse, 79. Instr. geol. and paleont, Cornell, 75–77; prof. geol, zool. and bot, North Carolina, and physiol, Sch. of Med, 77–81; teacher science, High Sch, San Jose, Cal, 82–86, v. principal, 83–84, principal, 84–86; lecturer econ. geol, Cornell, 87; prof. biol. and geol, Arkansas, 87–90; assoc. prof. *geol, Texas,* 90–95, *prof, 95–* Special agent, Dept. Mining Statist, Tenth Census, 80; biologist, Ark. Exp. Sta, 87–90; special asst, Ark. Geol. Surv, 87–92. Hon. Sc.D, Arkansas, 93. F.A.A; Geol.

Soc; Nat. Geog. Soc; Tex. Acad. Stratigraphical geology of the southwest; bibliography.—The physiographic conditions of Texas and the southwest.

Simpson, C(harles) B(aird), Moscow, Idaho (present address, Department of Agriculture, Pretoria, Transvaal, South Africa). *Entomology.* Arcata, Cal, Jan. 23, 77. B.S, Idaho, 98; A.M, Cornell, 00, grad. student, 00–01. Special field agent, Div. Entom, U. S. Dept. Agr, 01–03; *entomologist, Dept. Agr, Transvaal, South Africa, 03–* Field agent, Div. Entom, U. S. Dept. Agr, 00. M.A.A; Ass. Econ. Entom; Wash. Entom. Soc. Insect anatomy and development; economic entomology.

Simpson, Cha(rle)s T(orrey), Lemon City, Fla. *Zoology, Botany.* Tiskilwa, Ills, June 3, 46. Pub. schools. *Aid, Div. Mollusks, U. S. Nat. Mus, 89–* Lecturer zool, Georgetown. Cor. mem. Davenport Acad. Naiades; land and fresh water mollusks of the West Indies; flora of Florida.

Singer, Prof. Edgar A(rthur), Jr, University of Pennsylvania, Philadelphia, Pa. *Philosophy.* Philadelphia, Nov. 13, 73. A.B, Pennsylvania, 92, Ph.D, 94; Harvard, 95–96; senior fellow, Pennsylvania, 97–98. Asst, Harvard, 96; instr. *philos, Pennsylvania, 98–03, asst. prof, 03–* Philos. Ass; Psychol. Ass. The philosophy of nature.

Sinkler, Dr. Wharton, 1606 Walnut St, Philadelphia, Pa. *Medicine.* Philadelphia, Aug. 7, 45. South Carolina, 63–64; M.D, Pennsylvania, 68. *Practising physician, 68–* Attending physician, Phila. Orthop. Hosp. and Infirmary for Nervous Diseases; consulting physician, State Hosp. for Chronic Insane; consulting neurologist, Bryn Mawr Hosp; Germantown Hosp; trustee, Pennsylvania. Am. Physicians; Am. Med. Ass; Neur. Ass; Philos. Soc; Phila. Neur. Ass; Phila. Path. Soc; fel. Phila. Col. Physicians. Neurology.

Sisam, Charles H(erschel), Naval Academy Officers' Mess, Annapolis, Md. *Mathematics.* Cedar Rapids, Ia, Sept. 8, 78. A.B, Michigan, 02; A.M, Cornell, 03, fellow, 03–04. *Instr. math, U. S. Naval Acad, 04–* Math. Soc; Math. Verein. Classification of ruled surfaces; Cremona transformations in space.—Surfaces deduced from ruled surfaces by Cremona transformations.

Skinner, Prof. A(aron) N(ichols), Naval Observatory, Washington, D. C. **Astronomy.* Boston, Mass, Aug. 10, 45. Beloit, 65–66; special student, Dearborn Observatory, Chicago, 67–70. Asst. astronomer, U. S. Naval Observatory, 70–98; *prof. math, U. S. N, 98–* F.A.A; Astron. and Astrophys. Soc; Astron. Gesell. Meridian circle observations; zone $-13°50'$ to $-14°10'$, embracing about 20,000 observations to determine about 9,000 stars for Astron. Gesell. catalogue; discovered four variable stars.

Skinner, C(harles) E(dward), 1309 Singer Place, Wilkinsburg, Pa. *Engineering.* Redfield, O, May 30, 65. Ohio (Athens), 84–85; M.E, Ohio State, 90. Connected with Lab, *Westinghouse Elec. and Mfg. Co, 90–95, elec. engineer, 95–* M.A.A; Elec. Eng; Soc. Testing Materials; West. Pa. Eng. Soc; Pittsburg Acad. High tension and high frequency phenomena; insulating materials as applied to electrical apparatus; aging of iron and steel in dynamos and motors; insulating varnishes and oils; effect of temperature on insulating materials.—Aging of steel; insulating materials and methods.

Skinner, Prof. Clarence A(urelius), Station A, Lincoln, Nebr. *Physics.* Loudon Co, Va, Jan. 6, 71. B.S, Nebraska, 93; Ph.D, Berlin, 99. Demonstrator *physics, Nebraska,* 99–01, adj. prof, 01–03, *asst. prof, 03–* F.A.A; Physical Soc. Passage of electricity through gases.—Relation of the voltaic series to the electrode drop in gases.—Atomic ions in gases.

Skinner, Prof. E(rnest) B(rown), 210 Lathrop St, Madison, Wis. *Mathematics.* Redfield, O, Dec. 12, 63. A.B, Ohio (Athens), 88; Clark, 91–92; Ph.D, Chicago, 00. Prof. *math,* Amity, 88–91; instr, *Wisconsin,* 92–95, *asst. prof, 95–* Math. Soc; Wis. Acad. (sec'y, and ed, 'Trans.'). Groups of quaternary monomial substitutions—Linear substitution groups.

Skinner, Dr. Henry, 716 N. 20th St, Philadelphia, Pa. *Entomology.* Philadelphia, March 27, 61. Certificate in chem, Pennsylvania, 81, M.D, 84. *State entomologist, Pa, 94–* Prof. entom, Acad. Nat. Sciences, Phila, 95–00, asst. to curators, 01; prof. entom, Pa. Hort. Soc, 02; ed, 'Entom. News,' 90– F.A.A; Entom. Soc. (sec'y and curator, 90–); Ass. Econ. Entom; Pa. Hort. Soc; Phila. Acad; N. Y. Entom. Soc; Phila. Geog. Soc. Entomology.—Lepidoptera.

Skinner, Prof. J(oseph) J(ohn), Oneida, N. Y. *Mathematics.* Putney, Vt, Jan. 13, 42. Ph.B, Yale, 69, C.E, 74, Ph.D, 76. Instr. civil eng, Sheffield Sci. Sch, Yale, 73–74, math, 74–80, math. and French, 80–81; math, Mass. Inst. Tech, 85–96, asst. prof, 96–04. Work with Gen. F. A. Walker on statist. atlas of Ninth Census, 73–75. Momentum and vis viva; galvanometer coils; approximate computations.

Slagle, Dr. Robert L(incoln), Brookings, S. Dak. *Chemistry.* Hanover, Pa, March 17, 65. A.B, Lafayette, 87, A.M, 90; Ph.D, Hopkins, 94. Asst. to Prof. Atwater, Wesleyan, 94–95; prof. chem, S. Dak. Agr. Col, 95–97; S. Dak. Sch. Mines, 97–99, *pres,* 99–06; *S. Dak. Agr. Col, 06–* Chem. Soc. The double halides of tin and toluidin.

Slate, Prof. F(rederick), 2231 College Ave, Berkeley, Cal. **Mathematical physics.* London, England, Jan. 21, 52. B.S, Brooklyn Polytech, 71; Berlin, 77–78; Strasburg, 78–79. Instr, Dept. Chem, *California,* 74–77, *prof. physics, 91–* Physical Soc. Analytic mechanics.

Slaught, Prof. H(erbert) E(llsworth), University of Chicago, Chicago, Ills. *Mathematics.* Wat-

kins, N. Y, July 21, 61. A.B, Colgate, 83, A.M, 86; fellow, Chicago, 92–94, Ph.D, 98. Prof. math, Peddie Inst, 83–89, principal, 89–92; asst, later assoc. and instr. *math, Chicago, 94–00, asst. prof, 00–* Math. Soc. The cross-ratio group of 120 quadratic Cremona transformations of the plane.

Slichter, Prof. Cha(rle)s S(umner), Madison, Wis. *Mathematics.* St. Paul, Minn, April 16, 64. Northwestern, 85. Instr. math, Chicago Atheneum, 85–86; *Wisconsin, 86–89,* asst. prof, 89–92, *prof. applied math, 92–* Asst. hydrographer for work on ground water, U. S. Geol. Surv, 97–02; commissioner and sec'y, Wis. Geol. and Nat. Hist. Surv, 99–02; consulting engineer, U. S. Reclamation Service, and engineer in charge of investigation of motion of underground waters, 03– F.A.A; Wis. Acad. (pres, 99–02). Theoretical investigations on the motions of ground waters and other work in hydrodynamics.—Motions of ground waters; theoretical and field work in southern California; motions of viscous and plastic solids.

Slichter, Walter (Irvine), 16 Gillespie St, Schenectady, N. Y. *Electrical engineering.* St. Paul, Minn, May 7, 73. Col. City of N. Y, 88–90; E.E, Columbia, 96. Student and asst. to C. P. Steinmetz, Gen. Elec. Co, 97–05. Elec. Eng; Mech. Eng. Alternating currents and motors.

Slingerland, Prof. M(ark) V(ernon), 109 Summit Ave, Ithaca, N. Y. *Entomology.* Otto, N. Y, Oct. 3, 64. B.S, Cornell, 92. *Asst. entomologist, Cornell Exp. Sta, 89–; asst. prof. econ. entom, Cornell, 99–* F.A.A; Ass. Econ. Entom; Wash. Entom. Soc. The principal injurious insects of the United States.—Grape pests and other injurious insects.

Sloane, Dr. T(homas) O'Conor, South Orange, N. J. *Chemistry, Physics, Engineering.* New York, N. Y, Nov. 24, 51. A.B, St. Francis Xavier, 70, A.M, 72; E.M, Columbia, 72, Ph.D, 77. Prof. nat. sciences, Seton Hall; lecturer scientific subjects; *inventor and scientific expert, 77–* Mem. ed. staff, 'Plumber and Sanitary Engineer,' 'Scientific American' and 'Youth's Companion.' Chem. Soc. Electricity; liquid air and the liquefaction of gases; a new and exact method for the determination of all the sulphur in illuminating gas.

Slocum, Prof. Allison W(ing), 295 Maple St, Burlington, Vt. *Physics.* Dartmouth, Mass, April 22, 66. A.B, Haverford, 88, A.M, 89; A.M, Harvard, 90, Tyndall scholar, 91, Morgan scholar (Berlin), 92. Teacher math, West Chester State Nor. Sch, Pa, 92–93; *prof. physics, Vermont, 93–* Physical Soc. Dichroism of crystals for ultrared rays.

Slocum, Prof. Frederick, Ladd Observatory, Providence, R. I. *Astronomy.* Fairhaven, Mass, Feb. 6, 73. A.B, Brown, 95, A.M, 96, Ph.D, 98. Instr. math, *Brown, 95–00, asst. prof. astron, 00–* Acting director, Ladd Observatory, 04–05. M.A.A; Astron. and Astrophys. Soc.

Slocum, Dr. S(tephen) E(lmer), University of Illinois, Urbana, Ills. *Mathematics.* Glenville, N. Y, June 5, 75. B.E, Union, 97; Ph.D, Clark, 00. Instr. civil eng, Cincinnati, 00–01, applied math, 01–04, *asst. prof, 04–05; math, Illinois, 05–* Math. Soc. Lie's theory of continuous groups.—The continuity of groups generated by infinitesimal transformations; strength of materials.

Slonaker, Dr. J(ames) Rollin, Stanford University, Cal. *Zoology, Physiology.* Farmland, Ind, June 17, 66. B.S, Wisconsin, 93; Ph.D, Clark, 96. Asst. prof. zool, Indiana, 96–01; research asst. neur, Chicago, 01–02, assoc, 02–03; *asst. prof. physiol, Stanford, 03–* M.A.A; Soc. Nat; fel. Ind. Acad. Eyes of vertebrates; the eye of the mole.—The daily activity of the white rat from birth to natural death; the influence of food on the growth and activity of the white rat; the optic traits in the brain of a congenitally blind pigeon.

Slosson, Prof. Edwin E(mery), 130 Fulton St, New York, N. Y. *Chemistry.* Albany, Kas, June 7, 65. B.S, Kansas, 90, M.S, 92; Ph.D, Chicago, 03. Asst. chem, Kansas, 90–91; prof. chem, Wyoming, and chemist, Wyo. Agr. Exp. Sta, 91–04; *assoc. ed, 'The Independent,' 04–* F.A.A. Effect of salt solutions on seeds and plants; halogen amids; Wyoming petroleum; food adulteration.

Small, Prof. Albion W(oodbury), 5731 Washington Ave, Chicago, Ills. *Sociology.* Buckfield, Me, May 11, 54. A.B, Colby, 76; Newton Theol. Inst, 76–79; Berlin, 79–80; Leipzig, 80–81. Prof. hist. and econ, Colby, 81–88; reader hist, Hopkins, 88–89; pres, Colby, 89–92; *head, Dept. Sociol, Chicago, 92–* Ed, 'Am. Jour. Sociol,' 95– LL.D, Colby, 00. Int. Cong. Arts and Science, St. Louis, 04 (v. pres.). Econ. Ass; l'Inst. Int. de Sociol. The methodology of sociology.—Determination of sociological categories applicable to history and contemporary analysis; a demonstration of the dependence of concrete ethics upon sociology.

Small, Dr. John K(unkel), Perry Ave. and 207th St, New York, N. Y. **Botany.* Harrisburg, Pa, Jan. 31, 69. A.B, Franklin and Marshall, 92; fellow, Columbia, 92–94, Ph.D, 95. *Curator,* Herbarium, Columbia, 95–98; *Museums and Herbarium, N. Y. Bot. Garden, 98–* Special agent, Ga. Geol. Surv. Silver medal, Atlanta Expos. F.A.A; Torrey Bot. Club (cor. sec'y). Flora of southeastern United States; flora of North America; flora of Patagonia; morphology of the Spermatophyta; genera and families of flowering plants; regional botany.

Small, Dr. Maurice H(erman), 196 W. Lincoln Ave, Oshkosh, Wis. *Psychology, Pedagogy.* Wilton, Me, March 18, 61. A.B, Colby, 87; Clark, 95–98, fellow, 97–98, Ph.D, 05. Principal, High Sch, Norway, Me, 87–92; Westbrook, Me, 92–95; Passiac, N. J, 98–02; *chairman, Dept. Pedag, State Nor. Sch, Oshkosh, Wis, 03–* Nat. Educ. Ass; Wis. Acad. The suggestibility of chil-

dren; methods of manifesting the instinct for certainty; some psychological aspects of society and solitude.

Small, Dr. Willard Stanton, Paterson, N. J. *Psychology.* North Truro, Mass, Aug. 24, 70. A.B, Tufts, 94, Theol. Sch, 94–96, A.M, 97; Ph.D, Clark, 00. Prof. English, Lombard, 96–97; lecturer psychol. and educ, Oread Inst, Worcester, 99–01; acting prof. psychol, Mich. State Nor. Col, Ypsilanti, 01–02; prof. pedag. and supervisor, Training Sch, Los Angeles State Nor. Sch, 02–04; supt. schools, San Diego, 04–05; *principal pub. sch, Paterson, 05–* The mental processes of the white rat.—The development of altruism.

Smallwood, Prof. W(illiam) M(artin), Syracuse, N. Y. **Zoology.* Warsaw, N. Y, April 30, 73. A.B, Syracuse, 96, A.M, 97; Ph.D, Harvard, 02. Instr. biol, Syracuse, 96–98; prof. biol. and geol, Allegheny, 98–02; *assoc. prof. zool, Syracuse, 03–* F.A.A; Soc. Zool. Embryology of Opisthobranchia.—Maturation of nudibranchs.

Smith, Dr. A(bram) Alexander, 18 W. 51st St, New York, N. Y. *Medicine.* Wantage, N. J, 47. A.B, Lafayette, 68, A.M, 71; M.D, Bellevue, 71. *Prof. principles and practise of med, Univ. and Bellevue Hosp. Med. Col, 92–* Visiting physician, Bellevue Hosp, 82– Hon. A.M, Princeton, 89; LL.D, Lafayette, 92. Am. Physicians; Am. Med. Ass; Climat. Ass. Medicine.

Smith, Prof. Albert W(illiam), 1101 E. Madison Ave, Cleveland, O. **Chemistry.* Newark, O, Oct. 4, 62. Ph.C, Michigan, 85; B.S, Case, 87; Ph.D, Zürich, 92. Instr, later asst. prof. and *prof. metal. and indust. chem, Case, 87–* Chemist, Ohio Dairy and Food Commission, 92–96. F.A.A; Chem. Soc; Min. Eng; Electrochem. Soc. Heat value of fuels; water supply of Ohio.—Heat conductivity of refractive materials; specific heat of refractive materials.

Smith, Prof. Albert W(illiam), Cornell University, Ithaca, N. Y. *Mechanical engineering.* Westmoreland, N. Y, Aug. 30, 56. B.M.E, Cornell, 78, M.M.E, 86, fellow, 86–87. Asst. prof. mech. eng, Cornell, 87–91; prof. machine design, Wisconsin, 91–92; mech. eng, Stanford, 92–04; *director, Sibley Col, Cornell, 04–* Mech. Eng.

Smith, Prof. Alexander, University of Chicago, Chicago, Ills. **Chemistry.* Edinburgh, Scotland, Sept. 11, 65. B.S, Edinburgh, 86; Ph.D, Munich, 89. Asst. chem, Edinburgh, 89–90; prof. chem. and miner, Wabash, 90–94; asst. prof. chem, *Chicago,* 94–98, assoc. prof, 98–03, *dean, Junior Colleges, 99–, prof. chem. and director, Laboratories of Gen. and Phys. Chem, 04–* F.A.A; Chem. Soc; Ind. Acad; fel. Edinburgh Royal Soc; London Chem. Soc; Chem. Gesell. 1:3 and 1:4 diketones; synthesis by means of KCN; amorphous sulphur.—Amorphous sulphur.

Smith, Dr. Allen J(ohn), University of Pennsylvania, Philadelphia, Pa. *Pathology.* York, Pa, Dec. 8, 63. A.B, Pennsylvania Col, 83, A.M; M.D, Pennsylvania, 86. Asst. demonstrator *path,* Pennsylvania, 87–91; *prof,* Texas, 91–03; *Pennsylvania, 03–* Pathologist to various hospitals; lecturer nervous and mental diseases, Texas, 91–03. F.A.A; Ass. Path. and Bact; Am. Med. Ass; Texas Med. Soc; Texas Acad; Phila. Path. Soc; Phila. Neur. Soc; Phila. Col. Physicians; cor. mem. Madrid Soc. Hygiene. Pathology and allied subjects; parasitology.—Growth of organs; uncinariasis.

Smith, Dr. Andrew H(eermance), 18 E. 46th St, New York, N. Y. *Medicine.* Charlton, N. Y, Aug. 27, 37. M.D, Columbia, 58; Göttingen and Berlin, 58–59; A.M, Union. Asst. surgeon, U. S. A, 62–68; *physician,* St. Luke's Hosp, 71–80; *Presbyterian Hosp, 80–* V. pres, N. Y. Post-Grad. Med. Sch, 90– Am. Physicians; Climat. Ass; N. Y. Acad. Med. (pres, 03–04); Greater N. Y. Med. Ass. (pres, 02); N. Y. Co. Med. Soc; Phila. Acad; cor. mem. Gesell. für Heilkunde. Caisson disease; pneumonia; existence of inflammation.

Smith, Dr. A(rthur) Donaldson, 1820 Chestnut St, Philadelphia, Pa. *Medicine, Exploration.* Andalusia, Pa, April 27, 64. A.B, Pennsylvania, 85, M.D, 89. *Explorer, 90–* War correspondent for 'N. Y. Sun,' India, 97. Cullum gold medal, Am. Geog. Soc; Elisha Kent Kane gold medal, Phila. Geog. Soc; gold medal, Royal Geog. Soc, 01. Philos. Soc; hon. mem. Phila. Geog. Soc; hon. mem. Phila. Acad; hon. fel. Royal Geog. Soc; assoc. fel. London Zool. Soc; hon. mem. Soc. Geog. Italiana. Exploration in East Africa and Mongolia.

Smith, Prof. Arthur G(eorge), University of Iowa, Iowa City, Ia. *Mathematics, Physics.* Wayne, Ia, Nov. 27, 68. Ph.B, Iowa, 91, fellow, 93–94; A.M, Göttingen, 95; Cambridge, England, 98. Teacher, High Sch, Agency, Ia, 91–93; asst. prof. math, *Iowa,* 96–04, *junior prof. physics and mech, 04–* M.A.A; St. Louis Acad. Least squares.

Smith, Prof. Arthur W(hitmore), University of Michigan, Ann Arbor, Mich. *Mathematical physics, Electrical engineering.* Hartford, Vt, May 11, 74. B.S, N. H. Col, 93; Cornell, 93–94; M.S, Wesleyan, 95; fellow, Hopkins, 02–03. Ph.D, 03. Physical asst, U. S. Dept. Agr, 94–99; asst. physics, Wesleyan, 98–99; instr. physics and elec. eng, Tulane, 00–01; *prof.* elec. and elec. eng, Mississippi, 01–02; *physics, Michigan, 03–* M.A.A; Physical Soc. Calorimetric determinations of energy of foods; energy losses in condensers; latent heat of fusion of ice.—Resistance of voltaic cells; latent heat of evaporation of water at ordinary temperatures.

Smith, Dr. Burke, Lafayette, Ind. *Mathematics.* Forrest, Ills, March 26, 78. B.S, Washington (Seattle), 99; fellow, Yale, 01–02, Ph.D, 04. *Instr. math,* Northwestern, 00–01; Yale, 02–03; *Purdue, 04–* Elec. engineer, N. Y. Telephone Co, 03–04. Math. Soc. Deformation of surfaces.

Smith, Prof. C(harles) M(arquis), Highland Park, Lafayette, Ind. *Physics.* Racine, Wis, Sept. 28, 72. B.S, Wisconsin, 96; Munich, 00–01. Instr. *physics,* Wisconsin, 98–00; *Purdue,* 01–03, *asst. prof, 03–* Astron. and Astrophys. Soc. Variation of the ratio of the specific heats of gases with temperature.

Smith, Prof. David Eugene, Teachers College, Columbia University, New York, N. Y. **Mathematics.* Cortland, N. Y, Jan. 21, 60. Ph.B, Syracuse, 81, Ph.M, 84, Ph.D, 87. Teacher math, State Nor. Sch, Cortland, N. Y, 84–91; prof, Mich. State Nor. Col, Ypsilanti, 91–98; principal, State Nor. Sch, Brockport, N. Y, 98–01; *prof. math, Teachers Col, Columbia, 01–* Lecturer history and teaching of math, Summer Sch, Harvard, 00–03; math. ed, 'New Int. Encyclopedia.' LL.D, Syracuse, 05. Math. Soc. (ed, 'Bul,' librarian, 02); British Math. Ass; Math. Verein. History and teaching of mathematics.—History of mathematics.

Smith, Prof. Edgar F(ahs), University of Pennsylvania, Philadelphia, Pa. **Chemistry.* York, Pa, May 23, 56. B.S, Pa. Col, 74; Ph.D, Göttingen, 76. Asst. *chem,* Pennsylvania, 76–81; *prof,* Muhlenberg, 81–83; Wittenberg, 83–88; *Pennsylvania, 88–* Mem. Jury of Awards, Columbian Expos; U. S. Assay Commission, 95, 01–05; adviser chem, Carnegie Inst, 02. Hon. Sc.D, Pennsylvania, 99; LL.D, Wisconsin, 04. Nat. Acad; F.A.A. (v. pres, 98); Chem. Soc. (pres, 98); Philos. Soc. (pres, 03–); Chem. Gesell. Electrochemistry; separations of the rare earths.—Atomic weights; new series of complex inorganic acids.

Smith, Edwin, Rockville, Md. *Astronomy, Geodesy.* New York, N. Y, April 13, 51. Col. City of N. Y, 66–69. Aid, U. S. Coast and Geod. Surv, 70–74, sub-asst, 74–78, *asst,* 78–95; N. Y. State Surv, 96–97; *U. S. Coast and Geod. Surv, 98–* Astronomer in charge, Transit of Venus Exped, Chatham Isl, South Pacific, 74; Auckland, N. Z, 82. Astron. and Astrophys. Soc; Wash. Philos. Soc. Time; latitude; longitude; designed portable instruments for longitude work; determinations of force of gravity; variations of latitude.

Smith, Prof. E(rastus) G(ilbert), 649 Harrison Ave, Beloit, Wis. *Chemistry.* South Hadley, Mass, April 30, 55. A.B, Amherst, 77, A.M, 81; Ph.D, Göttingen, 83. Instr. *chem,* Williston Sem, Easthampton, Mass, 78–81; *prof, Beloit, 81–* F.A.A; Chem. Soc; Wis. Acad. (v. pres, 01); Chem. Gesell. Minerals; waters.—Water supply; bacteriology.

Smith, Dr. E(rnest) E(llsworth), 26 E. 29th St, New York, N. Y. *Pathology, Chemistry, Toxicology.* New Haven, Conn, Dec. 20, 67. Ph.B, Yale, 88, Ph.D, 91; M.D, Bellevue, 98. Asst. physiol. chem, Yale, 88–91; chief chemist, private research laboratories of Dr. Herter, New York, 91–95; *specialist, 98–* Pathologist, Trinity Hosp, West Side German Disp, and St. Bartholomew's Clinic, New York; St. John's Riverside Hosp, Yonkers, N. Y; consulting pathologist, Somerset Hosp, Somerville, N. J. F.A.A; Soc. Physiol. Chem. (sec'y, 99–02); Chem. Soc. (director and councilor); Soc. Chem. Indust; Soc. Med. Juris; Urol. Ass; N. Y. Co. Med. Soc; N. Y. Acad. Med. (sec'y, Sect. Med.); Greater N. Y. Med. Soc; N. Y. Path. Soc. Digestive proteolysis; uric acid excretion; uremic intoxications; intestinal toxemias; influence of baking-powders in food; the production of specific precipitins.

Smith, Dr. Erwin F(rink), 1460 Staughton St, Washington, D. C. **Plant pathology, Bacteriology.* Gilberts Mills, N. Y, Jan. 21, 54. B.S, Michigan, 86, Sc.D, 89. Special agent, later asst. pathologist and *pathologist in charge, Lab. of Plant Path, Bur. Plant Indust, U. S. Dept. Agr, 86–* Assoc. ed, 'Am. Naturalist,' and 'Centralblatt für Bakter'; contributor, 'Standard Dict.' F.A.A. (sec'y, G, 98, v. pres, 05); Soc. Nat; Soc. Bact. (mem. Council, Committee on Unification of Methods); Soc. Plant Morph. and Physiol. (pres, 01–02); life mem. Pomol. Soc; Wash. Biol. and Bot. Societies. Flora of Michigan; fungus and bacterial diseases of cultivated plants; relation of sewerage and water supply to death rate in cities; bacteria in relation to plant diseases.

Smith, Eugene, 317 Washington St, Hoboken, N. J. *Civil engineering, Zoology, Sociology.* New York, N. Y, Nov. 25, 60. High Sch. *Practising engineer and city surveyor, Hoboken, 89–* M.A.A; N. Y. Sci. Alliance. Fishes of the fresh and brackish waters in the vicinity of New York City; turtles and lizards.

Smith, Dr. Eugene A(lfred), 1018 Main St, Buffalo, N. Y. *Medicine, Surgery.* Buffalo, Oct. 16, 64. M.D, Buffalo, 87. Prof. anat, Niagara, 94–97; *adj. prof. clin. surg, Buffalo, 98–* Ass. Anat; N. Y. Med. Soc; Erie Co. (N. Y.) Med. Soc; Buffalo Acad. Med. Appendicitis; anesthesia; appendicitis statistics.—Results of operations on gall-bladder and biliary ducts.

Smith, Dr. Eugene A(llen), University, Ala. **Geology.* Washington, Ala, Oct. 27, 41. A.B, Alabama, 62; Ph.D, Heidelberg, 68. *Prof. miner. and geol, Alabama, 71–; state geologist, Ala, 73–* Asst. state geologist, Miss, 68–71; hon. commissioner, Paris Expos, 78; special agent on cotton culture, Tenth Census, 86; mem. Am. Committee, Int. Geol. Congresses, 84–89; mem. Jury of Awards, Atlanta Expos, 95; Nashville Expos, 97; La. Purchase Expos, 04. LL.D, Mississippi, 99. F.A.A. (sec'y, E, 84, v. pres, 04); Geol. Soc. (mem. Council, 92–95). Geology of Alabama.

Smith, Eugene R(andolph), 36 Park St, Montclair, N. J. *Mathematics.* Oswego, N. Y, March 18, 76. A.B, Syracuse, 96, A.M, 98. *Instr. math,* Syracuse, 96–97; Cazenovia Sem, 97–98; Syracuse, 98–99; *High Sch, Montclair, 99–* Math. Soc; Ass. Math. Teachers of Middle States and Md.

Smith, Prof. Francis H(enry), University Station, Charlottesville, Va. *Physics.* Leesburg, Va,

Oct. 14, 29. Wesleyan, 47–49; A.M, Virginia, 51. Instr. math, *Virginia*, 51–53, *prof. nat. philos, 53–* LL.D, Hampden-Sidney; Randolph-Macon; Emory and Henry. Physical Soc. Sounding flames; Foucault's pendulum; the harmonic curves.—Latitude without astronomical observation; refractive index of gases and mixed liquids by aid of new appliances.

Smith, Prof. Frank, 913 California Ave, Urbana, Ills. **Zoology.* Winneconne, Wis, Feb. 18, 57. Ph.B, Hillsdale, 85; A.M, Harvard, 93. Prof. chem. and biol, Hillsdale, 86–92; instr. biol, Trinity (Conn.), 92–93; instr. and later *asst. prof. zool, Illinois 93–* F.A.A; Soc. Nat; Soc. Zool. Embryology of Scyphomedusae; variation in Necturus.—Oligochaeta of Illinois; variation and inheritance in corn; bird migration.

Smith, Frank Clemes, Richland Center, Wis, *Mining, Metallurgy.* Mineral Point, Wis, June 12, 60. B.S, Michigan, 89, M.E, 90. Asst. quant. anal. and assaying, Michigan, 83–84, quant. chem. and assaying, 87–88, quant. chem. and lecturer metal, 88–89, instr. quant. chem, 88–90; prof. geol, mining and metal, S. Dak. Sch. of Mines, 94–97; *mining engineer, 97–* Mining and metal. engineer for various companies. Geol. Soc; Min. Eng; Nat. Geog. Soc; Numis. Ass; Colo. Sci. Soc; London Inst. Min. and Metal; British Numis. Soc. Geology; mining; metallurgy.

Smith, Dr. Geo(rge) Otis, The Iowa, Washington, D. C. *Geology.* Hodgdon, Me, Feb. 22, 71. A.B, Colby, 93, A.M, 96; Ph.D, Hopkins, 96. Asst. geologist, *U. S. Geol. Surv*, 96–01, *geologist, 01–* M.A.A; Geol. Soc; Min. Eng; Wash. Geol. Soc. Areal geology in Washington, Utah and New England.

Smith, Harlan I(ngersoll), 712 West End Ave, New York, N. Y. *Anthropology.* East Saginaw, Mich, Feb. 17, 72. Michigan, 91–93. Asst. anthrop, Columbian Expos, 91–93; *Am. Mus. Nat. Hist*, 95–99, *asst. curator, 00–* In charge anthrop. collection, Michigan, 91–93; explored for Archeol. Inst. of Am, 94; archeologist, Jesup North Pacific Exped, 97–; lecturer, N. Y. Board of Educ, 98– F.A.A. (sec'y, H, 97, 02); Anthrop. Ass. (mem. Council); fel. Ethnol. Soc; Folk-Lore Soc; Mus. Ass; Mich. Acad; hon. mem. Wis. Nat. Hist. Soc; cor. mem. Wash. Anthrop. Soc; cor. mem. Soc. d'Anthrop. de Paris; cor. mem. Swedish Soc. Anthrop. and Geog. Archeology of Michigan, southern Ohio, Kentucky and North Pacific Coast of America.

Smith, Prof. Harold B(abbitt), 20 Trowbridge Road, Worcester, Mass. *Electrical engineering.* Barre, Mass, May 23, 69. M.E, Cornell, 91, grad. student, 91–92. Adj. prof. elec. eng, Arkansas, 92; elec. engineer and head designer, Elektron Mfg, Co, 93; director, Sch. Elec. Eng, Purdue, 93–96; *prof. and director, Elec. Eng. Dept, Worcester, 96–* Consulting engineer, 93– F.A.A; Elec. Eng; Mech. Eng; Eng. Educ; Nat. Elec. Light Ass; British Inst. Elec. Eng. Design of direct current generators and motors; alternating current phenomena of high potential and low frequency.

Smith, Prof. Harrison W(illard), Massachusetts Institute of Technology, Boston, Mass. *Electrical engineeering.* Dorchester, Mass, Dec. 29, 72. A.B, Harvard, 95; B.S, Mass. Inst. Tech, 97. Asst. *elec. eng, Mass. Inst. Tech*, 98–01, instr, 01–05, *asst. prof, 05–* With Mass. Inst. Tech. eclipse expeditions to Washington, Ga, 00; Sumatra, 01. Assoc. Elec. Eng; Physical Soc; Astron. and Astrophys. Soc; Nat. Elec. Light Ass. Comparison of heat of vaporization of two liquids; methods of measuring the frequency of alternating currents; photographic work of Sumatra Eclipse Expedition.

Smith, Prof. H(arry) Monmouth, 742 S. Crouse Ave, Syracuse, N. Y. *Chemistry.* Middletown, Conn, Aug. 31, 68. A.B, Wesleyan, 91, A.M, 94; Ph.D, Heidelberg, 98. Assoc. prof. physical science, Hampden-Sidney, 98–99; instr. *chem, Syracuse*, 99–00, assoc. prof, 00–02, *prof, 02–* Asst. chemist, Storrs Agr. Exp. Sta, 91–92; Conn. Exp. Sta, 92–93; special agent nutrition investigations, U. S. Dept. Agr, 95. Chem. Soc. Cryoscopy.

Smith, Prof. Herbert E(ugene), 430 George St, New Haven, Conn. *Chemistry, Sanitary science.* Hartford, Conn, Oct. 21, 57. Ph.B, Yale, 79; M.D, Pennsylvania, 82. Instr. *chem, Med. Sch, Yale*, 82–85, *prof, 85–, dean, Med. Faculty, 86–* State chemist and chemist, Conn. Board of Health; lecturer water analysis, Sheffield Sci. Sch, Yale. Soc. Nat; Chem. Soc; Physiol. Soc; Conn. Med. Soc. Water analysis in relation to epidemics.

Smith, Prof. H(erbert) S(tearns) S(quier), Princeton, N. J. *Civil engineering.* Elizabeth, N. J, May 31, 57. C.E, Princeton, 78. Prof. astron, physics and civil eng, Kansas, 79–83; instr. civil eng, *Princeton*, 83–87, asst. prof, 88–99, *prof. applied mech, 99–* M.A.A; assoc. Civil Eng; Eng. Educ; Franklin Inst.

Smith, Dr. Hugh M(cCormick), U. S. Bureau of Fisheries, Washington, D. C. *Ichthyology.* Washington, Nov. 21, 65. M.D, Georgetown, 88. Asst, U. S. Fish Commission, 86–92, in charge, Div. of Fisheries, 92–96, in charge of scientific inquiry, 97–03; *Deputy U. S. Commissioner of Fisheries, 03–* Prof. nor. histol, Med. Dept, Georgetown, 95–02; co-special agent in charge of fisheries, Tenth Census; director, Biol. Lab, U. S. Fish Commission, Woods Hole, 01–02. M.A.A; Soc. Nat; assoc. Ornith. Union; Fisheries Soc; Nat. Geog. Soc; Wash. Biol. Soc; Wash. Acad; D. C. Med. Soc; Wild Flower Preservation Soc; hon. mem. London Soc. Biologico-Chem. Research; cor. mem. Seefischerei Verein. Ichthyology; commercial fisheries of the United States and of foreign countries.

Smith, Prof. Isabel S(eymour), Illinois College, Jacksonville, Ills. *Botany.* Hillsdale, Mich, Oct. 22, 64. A.B, Oberlin, 01; Woods Hole, 03; M.S, Chicago, 05. Teacher, High Sch, Fremont,

O, 91–95; asst. bot, Oberlin, 97–02; instr. *biol, Illinois Col, 03–05, asst. prof, 05–* Bot. Cent. States; Ohio Acad. Nutrition of the egg in Zamia.

Smith, Prof. Ja(me)s Perrin, Stanford University, Cal. **Paleontology.* Cokesbury, S. C, Nov. 27, 64. A.B, Wofford, 84; A.M, Vanderbilt, 86; Ph.D, Göttingen, 92. Teacher science, High Sch, Nashville, Tenn, 86–88; asst. chemist and geologist, Ark. Geol. Surv, 88–90; *prof. paleont. and miner, Stanford, 92–* Asst. geologist, U. S. Geol. Surv, 95– F.A.A. (sec'y, E, 95); Geol. Gesell. Carboniferous invertebrates; Triassic Cephalopoda; development of fossil Mollusca.—Triassic Cephalopoda of America; Triassic stratigraphy of North America.

Smith, Jared G(age), Honolulu, H. T. *Agriculture.* Scottsburg, N. Y, Sept. 13, 66. B.S, Nebraska, 88, A.M, 92. Asst. agriculturist, Nebr. Agr. Exp. Sta, 88–90; instr. bot, Washington (St. Louis), 92; bot. asst, Mo. Bot. Garden, 92–95; asst. agrostologist, *U. S. Dept. Agr, 95–99,* asst. botanist, seed and plant introduction, 00–01, *special agent in charge, Hawaii Exp. Sta, 01–* F.A.A; assoc. Bot. Soc; Nat. Geog. Soc; St. Louis Acad. Systematic botany; Alismaceae; Gramineae; Sagittaria; Lophotocarpus; Sitanion; Agropyron; Hordeaceae.

Smith, Prof. John B(ernhardt), New Brunswick, N. J. **Entomology.* New York, N. Y, Nov. 21, 58. Pub. schools. Practising lawyer, 80–84; special agent, U. S. Dept. Agr, 84–86; asst. curator of insects, U. S. Nat. Mus, 86–89; *prof. entom, Rutgers, and entomologist, N. J. Exp. Sta, 89–; state entomologist, N. J, 94–* Ed, 'Entomologica Americana,' 82–90. Hon. Sc.D, Rutgers, 91. F.A.A. (sec'y, F, 94); Soc. Nat; Ass. Econ. Entom; cor. mem. Entom. Soc; Soc. Prom. Agr. Sci; N. J. State Micros. Soc; Brooklyn Entom. Soc. (ed, 'Bul.'); Brooklyn Inst; Wash. Acad; hon. mem. Newark Entom. Soc; Phila. Feldmann Soc; Ottawa Field Nat. Club; Ont. Entom. Soc. Noctuid families of Lepidoptera; mouth parts of insects and economic branches.—Noctuid moths; mosquitoes.

Smith, J(ohn) C(harles), 131 Carondelet St, New Orleans, La. *Zoology.* New Orleans, May 8, 50. Louisiana, 69–71. Merchant. M.A.A; Micros. Soc; La. Soc. Nat. Protozoa; Rotifer; Pseudo-Neuroptera.—Protozoan fauna of brackish water of Lake Pontchartrain.

Smith, Prof. J(ohn) Holmes, 27 W. Preston St, Baltimore, Md. *Anatomy.* Bel Air, Md, March 30, 57. St. John's Col, Md; M.D, Pennsylvania, 80. Demonstrator anat, *Maryland, 90–02, lecturer clin. surg, 94–, prof. anat, 02–* Surgeon, Bay View Hosp, 91–96; pres, State Board of Anat, Md, 92–96; surgeon, St. Agnes Hosp, 95–00. Ass. Anat; Baltimore Med. and Surg. Soc; Baltimore Co. Med. Soc. Human and comparative anatomy.

Smith, J(ohn) Warren, 1422 Oak St, Columbus, O. *Meteorology, Geography.* Grafton, N. H, Sept. 21, 63. B.S, N. H. Col. Agr. and Mech. Arts, 88, M.S, 00; Lawrence Sci. Sch, Harvard, 91–92; grad, Summer Sch. Agr, Ohio State, 02. With *U. S. Weather Bur, 88–90, director,* New England Sect, 90–96, Mont. Sect, 96–97, *Ohio Sect, 98–* Special lecturer meteorol, Ohio State, 98–; ed, 'Sect. Bul.' Nat. Geog. Soc; Ohio Acad; Columbus Hort. Soc. Phenology; meteorology; agricultural physics.—Phenology; radiation from surface of ground.

Smith, Prof. J(oseph) Russell, Wharton School, University of Pennsylvania, Philadelphia, Pa. *Economic geography, Commerce.* Lincoln, Va, Feb. 3, 74. B.S, Pennsylvania, 98; Leipzig, 01–02; Ph.D, Pennsylvania, 03. Instr. science and hist, Abington Friends Sch, Pa, 95–96; hist, George Sch, 96–97, 98–00; econ. investigator, Isthmian Canal Commission, 99–01; *instr. commerce, Wharton Sch. Finance and Commerce, Pennsylvania, 03–* Geog. Ass; Acad. Polit. and Social Sci; Phila. Geog. Soc. Economic geography; ocean commerce.—Control of ocean freight rates.

Smith, Prof. Leonard S(ewall), 939 University Ave, Madison, Wis. *Civil engineering.* East Troy, Wis, Feb. 14, 64. B.C.E, Wisconsin, 90, C.E, 95. Instr. civil eng, *Wisconsin,* 94–96, asst. prof. *topog. and geol. eng,* 97–05, *prof, 05–* Temporary aid, U. S. Coast and Geod. Surv, 96–00; topographer, U. S. and Mexico Int. Boundary Surv, 92–94; hydrographer in charge, Wis. Nat. Hist. and Geol. Surv, 97–05; engineer, State Levee Commission, 01–05. Assoc. mem. Civil Eng; Eng. Educ; Wis. Acad. Accuracy of stadia measurements; water powers of Wisconsin.

Smith, Dr. Margaret K(eiver), State Normal School, New Paltz, N. Y. *Psychology.* Amherst, N. S, 56. Stoy's Sch. and Jena, 85–87; Göttingen, 96–97; Ph.D, Zürich, 00; hon. fellow, Clark, 00–01. Teacher, Oswego, N. Y, 87–96; *director psychol. and geog, State Nor. Sch, New Paltz, N. Y, 01–* Soc. Nat; Psychol. Ass; Social Sci. Ass. Psychology of rhythm and work; irregularities of rhythmic intervals.—Physical condition of normal school students as indicated by reaction-time, skin sensitivity and acuteness of sight and touch.

Smith, Prof. O(tis) D(avid), Auburn, Ala. *Mathematics.* New Haven, Vt, June 27, 31. A.B, Vermont, 53, A.M, 75. Principal of academies, 54–73; *prof. math, Ala. Polytech, 73–* Mem. Ala. State Board of Educ, 70–76. LL.D, Alabama, 98. Math. Soc; Ala. Educ. Ass. (pres.). Mathematics.

Smith, Prof. Percey F(ranklyn), 78 Pearl St, New Haven, Conn. **Mathematics.* Nyack, N. Y, Aug. 21, 67. Ph.B, Yale, 88, Ph.D, 91; Göttingen, Berlin and Paris, 94–96. Instr. *math, Sheffield Sci. Sch, Yale,* 88–94, asst. prof, 95–00, *prof, 00–* Math. Soc; Conn. Acad. Analytic spherical geometry; transformation theory.

Smith, Dr. Q(uintius) C(incinnatus), 1507 Colorado St, Austin, Tex. *Medicine, Surgery.*

Humphreys Co, Tenn, March 1, 42. M.D, Nashville, 68. *Practising physician, 68–* U. S. meteorol. observer, 73– F.A.A; Am. Med. Ass; Cal. Acad; Tex. Acad. Clinical medicine and surgery.

Smith, Prof. Ralph E(lliott), University of California, Berkeley, Cal. *Botany.* Boston, Mass, Jan. 9, 74. B.S, Mass. Agr. Col, 94; Munich, 98. Instr. bot, Mass. Agr. Col, 94–95, *asst. prof*, 95–03; *plant path, California, 03–* Vegetable pathology.

Smith, Prof. R(obert) Wilson, 28 Tranby Ave, Toronto, Can. *Botany.* Ontario, Can, Oct. 30, 60. A.B, McMaster, 95; fellow, Chicago, 96–99, Ph.D, 99. Master science, Woodstock (Can.), 91–96; lecturer *biol, McMaster*, 99–00, *prof, 00–* Bot. Cent. States; Int. Ass. Bot. Morphology of the sporangia of Isoetes; cytology of various sporangia.

Smith, Prof. Sidney I(rving), 147 Whalley Ave, New Haven, Conn. **Biology.* Norway, Me, Feb. 18, 43. Ph.B, Yale, 67. Asst. and instr. zool, *Yale*, 67–75, *prof. comp. anat, 75–* Zoologist, U. S. Lake Surv, 71; U. S. Fish Commission, 71–87. Hon. A.M, Yale, 87. Nat. Acad; Soc. Nat; Soc. Zool. Crustaceans.

Smith, Prof. Theobald, South St, Forest Hills, Boston, Mass. **Comparative pathology.* Albany, N. Y, July 31, 59. Ph.B, Cornell, 81; M.D, Albany Med. Col, 83. In charge investigation of infectious animal diseases, Bur. Animal Indust, U. S. Dept. Agr, 84–95; *prof.* bacter, Columbian, 86–95; *comp. path, Harvard, 96–* In charge, Path. Lab, Mass. State Board of Health, 95–; mem. Board of Directors, Rockefeller Inst. for Med. Research, 01– Hon. A.M, Harvard, 01. Ass. Path. and Bact; Am. Physicians; Soc. Bact; Soc. Exp. Biol. and Med; Pub. Health Ass; Am. Acad. Etiology of infectious diseases.—Relation of bacteria and Protozoa to certain diseases, including the problem of immunity.

Smith, Dr. Theodate (Louise), Clark University, Worcester, Mass. *Psychology.* Hallowell, Me, April 9, 60. A.B, Smith, 82, A.M, 84; Ph.D, Yale, 96; Cornell, 99; Berlin, 05. Teacher math. and psychol, Brooklyn Heights Sem, 84–86; Mt. Vernon Sem, Washington, D. C, 86–93, 96–98; *research asst. psychol, Clark, 02–* Nat. Educ. Ass. (sec'y, Child-Study Sect, 05); Ass. Col. Alumnae. Muscular power and control; muscular memory; reactions to light and darkness; vital statistics; child-studies.—Progress of child-study in the United States and foreign countries.

Smith, Prof. T(homas) A(lexander), 1023 Chapin St, Beloit, Wis. *Mathematics, Physics.* Morganville, O, Oct. 3, 47. A.B, Muskingum, 72; Ph.D, Yale, 77. *Prof. math,* Muskingum, 72–74; *Beloit*, 77– M.A.A. Mathematics; physics.

Smith, Prof. T(homas) Berry, Central College, Fayette, Mo. *Chemistry, Physics.* Pike Co, Mo, Dec. 7, 50. A.B, Pritchett, 73, A.M, 79; Sheffield Sci. Sch, Yale, 75–76. Instr. sciences, Pritchett, 73–75; *prof.* chem. and geol, N. Mo. State Nor. Sch, 77–78; chem. and physics, Carleton, 79–80; nat. science, Pritchett, 82–86; *chem. and physics, Central (Mo.), 86–* Acting pres, Central (Mo.), 01–03; voluntary observer, U. S. Weather Service, 83– M.A.A; Mo. State Teachers Ass. The weather; elementary science teaching.

Smith, Prof. Walter, Lake Forest, Ills. *Philosophy.* Halfmorton, Scotland, July 2, 69. A.M, Edinburgh, 80; Ph.D, Tübingen, 89. Prof. philos, Lake Forest, 90–05. Psychol. Ass; West. Philos. Ass. Epistemology; metaphysics.—Metaphysics.

Smith, Dr. W(arren) R(ufus), Lewis Institute, Chicago, Ills. *Chemistry.* Litchfield, Me, July 10, 69. A.B, Bowdoin, 90; Ph.D, Chicago, 94. Instr. *chem, Lewis Inst, Chicago*, 96–01, asst. prof, 01–05, *prof, 05–* M.A.A; Chem. Soc; Soc. Chem. Indust. Fats and oils; general inorganic chemistry.

Smith, Prof. W(illiam) B(enjamin), Tulane University, New Orleans, La. **Mathematics, New Testament criticism.* Stanford, Ky, Oct. 26, 50. A.B, Kentucky, 70, A.M, 71; Ph.D, Göttingen, 79. *Prof.* math, Central (Mo.), 81–85; physics, Missouri, 85–88, *math*, 88–93; *Tulane, 93–* LL.D, Kentucky, 04. F.A.A; Math. Soc; Soc. Bibl. Lit. and Exeg. Pauline criticism; origin and structure of the so-called Epistle to the Romans.—Id; origins of Christianity.

Smith, Dr. W(illiam) S(idney) Tangier, U. S. Geological Survey, Washington, D. C. *Geology.* Stockton, Cal, April 2, 69. B.L, California, 90; Hopkins, 90–91; fellow, California, 95–97, Ph.D, 96. Prof. math. and nat. science, Occidental, 94–95; math, State Nor. Sch, Chico, Cal, 97–98; asst. miner, California, 99–00; *asst. geologist, U. S. Geol. Surv, 00–* Asst. chem, California, 98; field asst, U. S. Geol. Surv, 96, 97, 98. M.A.A; Geol. Soc. Geology and physiography of California; laws of erosion; geology of the Black Hills.—Lead and zinc deposits of the Ozark region; criteria of peneplanation.

Smith, Prof. William T(hayer), Hanover, N. H. *Physiology.* New York, N. Y, March 30, 39. A.B, Yale, 60, A.M, 74; M.D, Dartmouth, 78; M.D, N. Y. Univ, 79. *Prof. physiol, Med. Sch, Dartmouth, 85–, dean, 96–* LL.D, Dartmouth, 97. M.A.A; Am. Acad. Med; N. H. Med. Soc. (pres, 00–01).

Smock, J(ohn) C(onover), Trenton, N. J. *Geology.* Near Holmdel, N. J, Sept. 21, 42. A.B, Rutgers, 62; Berlin, 69–70. Asst. geologist, N. J. Geol. Surv, 64–85; asst. in charge, N. Y. State Mus, 85–90; state geologist, N. J, 90–00. Tutor chem, Rutgers, 65–67; mem. Board of Managers, N. J. Geol. Surv. F.A.A; Geol. Soc; Min. Eng; Forestry Ass; Philos. Soc.

Smyth, Prof. B(ernard) B(ryan), State House, Topeka, Kas. *Botany, Glaciology, Mathematics.* County Cavan, Ireland, March 8, 43.

Mich. Nor. Sch. Instr. bot, entom, etc, Judicial Nor. Institutes, Kas, 76–80; prof. bot, Kas. Med. Col, 90–95; *curator, Kas. State Mus, Herbarium, and Goss Ornith. Collection, 95–* M.A.A; Nat. Geog. Soc; life mem. Kas. Acad. (librarian and cor. sec'y, 86–02); life mem. Kas. Hort. Soc; life mem. Kas. Hist. Soc; Kas. Authors' Club (sec'y, 04–); Topeka Philos. Soc. (sec'y, 90–). Kansas plants; pollination in fruits; age of Kansas, geological; terminal moraine and buried moraines in Kansas; figurate series; harmonic forms (magic squares, etc.); therapeutic properties of Kansas medicinal plants.—Number, extent and succession of traceable terminal moraines, and contributing causes of glacial epochs.

Smyth, Prof. C(harles) H(enry), Jr, Princeton University, Princeton, N. J. *Geology, Mineralogy.* Oswego, N. Y, March 31, 66. Ph.B, Columbia, 88, Ph.D, 90; Heidelberg, 90–91. *Prof.* geol. and miner, Hamilton, 91–05; *geol, Princeton, 05–* Field asst, U. S. Geol. Surv, 98; asst. to N. Y. state geologist. Hon. A.B, Hamilton, 90. F.A.A. (sec'y, E, 97); Geol. Soc; Min. Eng; N. Y. Acad. Pre-Cambrian and economic geology.—Geology of western Adirondacks.

Smyth, Prof. Ellison A(dger), Jr, Virginia Polytechnic Institute, Blacksburg, Va. *Biology.* Summerton, S. C, Oct. 26, 63. A.B, Princeton, 84; Law Sch, Columbia, 84–85; A.M, Princeton, 87; Virginia, 87. Adj. prof. *biol,* South Carolina, 89–91; *prof, Va. Polytech. Inst, 91–, dean of Faculty, 03–* Assoc. Ornith. Union; N. Y. Entom. Soc. Life histories of Lepidoptera, chiefly Sphingidae; distribution of southern bird life.—Scale markings in the Buddha and Paris group of Papilionidae; life histories of native Sphingidae.

Smyth, Prof. Henry Lloyd, 9 Buckingham St, Cambridge, Mass. **Geology.* Near St. Mary's, Ont, Jan. 11, 62. A.B, Harvard, 83, C.E, 85. Instr. *mining and metal, Harvard,* 93–95, asst. prof, 95–00, *prof, 00–* Geol. Soc; Min. Eng; fel. Am. Acad. Economic geology.

Sneath, Prof. E. Hershey, 285 Whitney Ave, New Haven, Conn. *Philosophy.* Mountville, Pa, Aug. 7, 57. A.B, Lebanon Valley, 81; B.D, Yale, 84, Ph.D, 90. Instr. philos, Wesleyan, 85–88; Miss Porter's Sch, Farmington, 88–91; *Yale,* 91–93, asst. prof, 93–98, *prof,* 98–04, *theory and practise of educ. and director, Summer Sch. of Arts and Sciences, 04–* Lecturer ethics, Smith, 93. F.A.A; Philos. Ass; Psychol. Ass; Social Sci. Ass. Science and philosophy of education.—Educational theory and practise.

Snell, Prof. J(ohn) F(erguson), University of Cincinnati, Cincinnati, O. *Chemistry.* Brampton, Ont, 70. A.B, Toronto, 94; Ph.D, Cornell, 98. Asst. chem, Cornell, 94–95, 96–98; Wesleyan, 98–99; nutrition investigations, U. S. Dept. Agr. (Middletown, Conn.), 98–01; instr. *chem, Cincinnati,* 01–04, *asst. prof, 04–* Asst. chemist, Storrs Agr. Exp. Sta, 00–01. Chem. Soc. (sec'y, Cincinnati Sect, 02–03, pres, 04). Phase rule study of system water, acetone and potassium chlorid; method for determining heats of combustion; analytical chemistry; variations of temperature in the human body.—Methods in analytical chemistry; relation of colloids to water purification.

Snelling, Prof. Cha(rle)s M(ercer), Athens, Ga. *Mathematics.* Richmond, Va, Nov. 3, 62. Va. Mil. Inst; Göttingen, Berlin. Asst. prof. *math,* Va. Mil. Inst, 84–85; prof, Southern Georgia, 86–88; adj. prof, *Georgia,* 88–97, *prof,* 97– Hon. A.M, Georgia, 92. M.A.A; Math. Soc.

Snodgrass, R(obert) E(vans), Stanford University, Cal. *Entomology, Ornithology.* St. Louis, Mo, July 5, 75. A.B, Stanford, 01. Asst. prof. *entom,* Wash. Agr. Col, 01–03; *instr, Stanford, 03–* Mem. Ornith. Union; Cooper Ornith. Club. Insect anatomy; Galopagos fauna.—Insect anatomy.

Snook, Prof. H(omer) Clyde, Allegheny College, Meadville, Pa. *Physics.* Antwerp, O, March 25, 78. A.B, Ohio Wesleyan, 00; A.M, Allegheny, 02. Asst. astron, Ohio Wesleyan, 98–00, physics, 99–00; prof. physics and chem, Ohio Soldiers' and Sailors' Orphans Home, Xenia, 00–01; asst. chem, *Allegheny,* 01–02, *prof. physics and chem, 02–* M.A.A. Röntgen and Hertzian radiation.—Stereoscopic effects in Röntgen radiation; the mechanical separation of atmospheric gases.

Snook, T(homas) E(dward), 261 Broadway, New York, N. Y. *Mathematics, Engineering, Architecture.* Brooklyn, N. Y, Oct. 23, 63. E.M, Columbia, 84. Engineer for John B. Snook, architect, 84–87; *architect, 87–* Math. Soc; Civil Eng. Architectural engineering.—Number and size of elevators for buildings of various heights and areas.

Snow, Prof. Benjamin W(arner), 518 Wisconsin Ave, Madison, Wis. **Physics.* Henry, Ills, Aug. 15, 60. B.S, Cornell, 85, fellow, 85–86; Göttingen, 87–88; Strasburg, 88; Ph.D, Berlin, 92. Instr. *physics,* Ohio State, 86–87; Cornell, 88–90; *prof,* Indiana, 92–93; *Wisconsin, 93–* F.A.A. (sec'y, B, 94); Physical Soc; Astron. and Astrophys. Soc. Radiation.—Infra-red metallic spectra.

Snow, Prof. Charles H(enry), University Grounds, Morris Heights, New York, N. Y. *Civil engineering.* New York, March 24, 63. C.E, N. Y. Univ, 86. *Prof. civil eng, N. Y. Univ, 91–dean, Sch. Applied Sci.* Practising civil engineer, 86– Hon. Sc.D, Western Univ. of Pa. Civil Eng; Min. Eng. (mem. Council, 04). Materials of construction; economic woods.

Snow, Dr. Francis H(untington), 1345 Louisiana St, Lawrence, Kas. **Entomology.* Fitchburg, Mass, June 29, 40. A.B, Williams, 62, A.M, 65; Andover Theol. Sem, 66. Principal, High Sch, Fitchburg, 62; prof. math. and nat. science, *Kansas,* 66–69, nat. hist, 69–86, bot. and entom, 86–90, pres. and chancellor, 89–01, director, Mus. Nat. Hist, 88–02, Exp. Sta, 91–02, *prof.* nat.

hist, 01–02, *org. evolution, syst. entom. and meteorol, 02–* Ed, 'Psyche.' Hon. Ph.D, Williams, 81; LL.D, Princeton, 90. F.A.A; Nat. Educ. Ass; assoc. Ornith. Union; Kas. Acad. (pres, five years); Cambridge Entom. Soc. Economic and systematic entomology; meteorology and ornithology of Kansas; artificial introduction into wheat and corn fields of the contagious diseases of the chinch-bug.

Snow, Miss Julia (Warner), 32 Bedford Terrace, Northampton, Mass. *Botany.* La Salle, Ills, Aug. 30, 63. B.S, Cornell, 88, fellow, 88–89, M.S, 89; fellow, Ass. Col. Alumnae, 91–92; Ph.D, Zürich, 93; Basel, 96–97. Teacher science, Am. Col. for Girls, Constantinople, 94–96; asst. bot, Michigan, 97, instr, 97–99; teacher biol, Rockford, 99–00; asst. *bot, Smith,* 00–01, *instr, 02–* Soc. Plant Morph. and Physiol. Fresh-water Algae.

Snyder, Prof. Harry, 2090 Commonwealth Ave, St. Anthony Park, Minn. *Agricultural chemistry.* Cherry Valley, N. Y, Jan. 26, 67. B.S, Cornell, 89. Asst. chem, Cornell, 88–91, and Cornell Exp. Sta, 89–91; *chemist, Minn. Exp. Sta, 91–; prof. agr. chem, Minnesota, 92–* Investigations on nutrition, U. S. Dept. Agr, 98– F.A.A; Chem. Soc; Soc. Prom. Agr. Sci. Human food and soil investigations; flour, wheat and cereals.

Snyder, Prof. J(ohn) O(tterbein), Stanford University, Cal. *Zoology.* Butler, Ind, Aug. 14, 67. Indiana, 90–91; A.B, Stanford, 97, A.M, 99. Supt. schools, Pullman, Wash, 93–94; asst. *zool, Stanford,* 97–99, instr, 99–03, *asst. prof, 03–* Asst, U. S. Fish Commission, 97, 99, 02, 04. Cal. Acad. Geographical distribution and classification of fishes of Mexico, Japan and Hawaii.—Geographical distribution and classification of fishes of California and Oregon.

Snyder, Prof. Virgil, 214 University Ave, Ithaca, N. Y. **Mathematics.* Dixon, Ia, Nov. 9, 69. B.S, Iowa State, 89; Cornell, 90–92, fellow, 92–93; Ph.D, Göttingen, 94. Instr. *math, Cornell,* 94–03, *asst. prof, 03–* Math. Soc; Math. Verein. Geometry of the line and sphere.—Configuration of ruled surfaces.

Snyder, W(illia)m H(enry), 125 Penn Ave, Worcester, Mass. *Physical science.* Auburn, Me, Feb. 17, 63. A.B, Colby, 85; A.M, Harvard, 88. Principal, High Sch, Littleton, Mass, 85–87; teacher science, Workingman's Sch, N. Y, 88–89; *master science,* Worcester Acad, 90–95; Wm. Penn. Charter Sch, Phila, 96–97; *Worcester Acad, 97–* With U. S. Geol. Surv, 89–90. Chem. Soc; Nat. Geog. Soc. Geography.

Snyder, Dr. Z(achariah) X(enophon), Greeley, Colo. *Biology, Ornithology, Archeology.* Reagantown, Pa, Aug. 31, 50. B.S, Waynesburg, 76, Ph.D, 87. Principal schools, Wiconisco, Pa, 76–80; prof. math, Waynesburg, 81–82; supt. schools, Greensburg, Pa, 83–87; Reading, Pa, 87–89; *pres,* State Nor. Sch, Indiana, Pa, 89–91; *State Nor. Sch, Colo, 91–* M.A.A; Nat. Educ. Ass. (chairman, Committee on Nor. Schools); Nat. Geog. Soc. Education; birds of North America.

Sollmann, Prof. Torald (Hermann), Western Reserve Medical College, Cleveland, O. *Pharmacology, Physiology.* Coburg, Germany, Feb. 10, 74. Private study in pharmacy, chem. and med, U. S. and Paris, 87–94; M.D, Western Reserve, 96. Demonstrator physiol, *Western Reserve,* 95–98, lecturer pharmacol, 98–01, asst. prof. *pharmacol. and materia medica,* 01–03, assoc. prof, 03–04, *prof, 04–* M.A.A; Physiol. Soc; Soc. Exp. Biol. and Med; Am. Med. Ass. (mem. Council Pharmacy and Chem, 05); Therapeut. Soc. Salt action; urine secretion.—Perfusion of excised kidneys; pharmacological effects of thorium.

Sondern, Dr. Frederic E(wald), 200 W. 56th St, New York, N. Y. *Pathology.* Stuttgart, Germany, March 30, 67. M.D, Columbia, 89. *Prof. clin. path, N. Y. Post-Grad. Med. Sch, 05–* Director, Laboratories, Lying-in-Hosp, New York. Ass. Path. and Bact; N. Y. Path. Soc; N. Y. Acad. Med. Clinical pathology.

Soper, Dr. George A(lbert), 29 Broadway, New York, N. Y. *Sanitary science, Engineering.* New York, Feb. 3, 70. B.S, Rensselaer, 95; A.M, Columbia, 98, Ph.D, 99. Transitman, West. Div, Boston Water Works, 95; engineer, Cumberland Mfg. Co, 95–97; engineer in charge sanitary cleaning of Galveston, Tex, 99; sanitary engineer, Dept. Health, N. Y. City, 02; expert, Dept. Health, N. Y. State, 03; Williams Col, Cornell Univ, Watertown and Lawrence, N. Y, 04; *consulting sanitary engineer.* Mem. various commissions, 01– M.A.A; Chem. Soc; Pub. Health Ass; Civil Eng; Am. Water Works Ass; New Eng. Water Works Ass; Boston Soc. Civil Eng. Water and sewage purification; ventilation; the etiology of epidemics of typhoid fever.

Souchon, Dr. Edmond, 2403 St. Charles Ave, New Orleans, La. *Anatomy, Surgery, Sanitary science.* Opelousas, La, Dec. 1, 41. Interne, hospitals, Paris, 65; M.D, Louisiana, 67. *Prof. anat, Tulane, and Tulane prof. clin. surg, Charity Hosp, New Orleans, 84–* Pres, La. State Board of Health, 98–; mem. Board of Administrators, Charity Hosp, 79. Ass. Anat; fel. Surg. Ass. (v. pres, 98); Am. Med. Ass. (v. pres, 96). Anatomy; surgery; sanitary science.—The influence of mosquitoes on the transmission of yellow fever.

Soule, R(ichard) H(erman), 917 Seventh Ave, New York, N. Y. *Mechanical engineering.* Boston, Mass, March 4, 49. A.B, Harvard, 70; B.S, Mass. Inst. Tech, 72. Supt. motive power, various railroads, 79–00; *consulting engineer, New York, 00–* F.A.A; Mech. Eng; Master Mechanics Ass; Master Car Builders' Ass. Locomotive and car construction; design of railway shops.

Soule, Prof. William, 1804 S. Union Ave, Alliance, O. *Chemistry, Physics.* Dover Plains, N. Y, Dec. 5, 34. B.S, Michigan, 61, M.S, 62. Teacher

nat. science, Cazenovia Sem, N. Y, 64–65, 66–78; prof. chem. and physics, Mt. Union, 80–04. Hon. Ph.D, Mt. Union, 81. F.A.A; Nat. Geog. Soc; Ohio Acad.

Southall, Prof. James P(owell) C(ocke), Alabama Polytechnic Institute, Auburn, Ala. *Physics.* Norfolk, Va, April 4, 71. Richmond, 86–88; A.M, Virginia, 93; Hopkins, fellow by courtesy, 98–99. Instr. physics, Virginia, 91–93; prof. physics and math, Miller Manual Training Sch, Albemarle, Va, 93–98; Prendergast prof. *physics,* Hobart, 99–01; *prof, Ala. Polytech, 01–* M.A.A. Geometrical optics.

Southard, Dr. E(lmer) E(rnest), 688 Boylston St, Boston, Mass. *Neuropathology.* Boston, July 28, 76. A.B, Harvard, 97, M.D, 01, A.M, 02. Asst. path, Boston City Hosp, 02–03; *instr. neuropath, Harvard Med. Sch, 04–* Asst. visiting pathologist, Boston City Hosp, 05; pathologist and asst. physician, Danvers Insane Hosp, 05– Ass. Path. and Bact; Am. Med. Ass; Boston Soc. Med. Sci; Boston Soc. Psychiat. and Neur. Pathological histology of the nervous system in man and the higher vertebrates.—Histology of bacterial infection in the nervous system, human and experimental.

Spafford, Miss Jessie I(sadore), Rockford, Ills. *Physics, Mathematics.* Rockford, Ills, Jan. 3, 62. A.B, Vassar, 84; Zürich, 91–92; Chicago, 96. *Head, Dept. Math. and Physics,* Rockford Sem, 85–92; *Rockford, 93–* Physical Soc.

Spalding, Prof. F(rederick) P(utnam), 901 Virginia Ave, Columbia, Mo. *Civil engineering.* Wysox, Pa, April 7, 57. C.E, Lehigh, 80. Instrument man, South. Pacific R. R, 80–82; asst. engineer, Miss. River Improv, 82–85; instr. civil eng, Lehigh, 86–88; surveyor, Miss. River Commission, 88–90; engineer in charge street extensions, Washington, D. C, 90–91; asst. prof. civil eng, Cornell, 91–98; contractor for munic. works, 98–00; *prof. civil eng, Missouri, 00–* F.A.A; Civil Eng; Eng. Educ; St. Louis Eng. Club. Properties and methods of testing cements; expansions of cement and concrete.—Theory of reinforced concrete.

Spalding, Prof. V(olney) M(organ), Tucson, Ariz. **Botany.* East Bloomfield, N. Y, Jan. 29, 49. A.B, Michigan, 73; Ph.D, Leipzig, 94. Instr. bot, Michigan, 76–79, asst. prof, 79–85, prof, 85–04. F.A.A; Soc. Plant Morph. and Physiol. (pres, 03); Mich. Acad. (pres, 98); Int. Ass. Bot. Traumatropism; distribution of plants; laws governing succession of plant societies.—Biological relations of desert shrubs.

Spangler, Prof. H(enry) W(ilson), 4815 Springfield Ave, Philadelphia, Pa. *Mechanical engineering.* Carlisle, Pa, Jan. 18, 58. Grad, U. S. Naval Acad, 78. Engineer officer, U. S. N, 78–91; instr. *mech. eng, Pennsylvania,* 81–84, 87–90, *prof, 90–* Mem. Advisory Council, Eng. Cong, Columbian Expos, 93; Jury of Awards, Pan-Am. Expos, 01. Hon. M.S, Pennsylvania. Mech. Eng; Eng. Educ; Naval Eng; Naval Archit. and Marine Eng; Phila. Eng. Club (pres, 90); Franklin Inst. Steam-engine economy.—Cyclical changes in temperature in steam-engines; strength of flat plates; effect of high temperature on superheating boiler tubes.

Spaulding, Dr. E(dward) G(leason), Princeton University, Princeton, N. J. *Philosophy, Psychology.* Burlington, Vt, Aug. 6, 73. B.S, Vermont, 94; A.M, Columbia, 98; Ph.D, Bonn, 00. Instr. math. and science, Cutler Sch, New York, 94–98; philos. and psychol, Col. City of N. Y, 00–05; *preceptor philos, Princeton, 05–* On staff in physiol, Woods Hole. F.A.A; Philos. Ass. Psychophysical parallelism (critique); physics of segmentation; association in hermit crabs.—Dogmas in philosophy and science.

Spaulding, Perley, Missouri Botanical Garden, St. Louis, Mo. *Vegetable pathology.* South Royalton, Vt, Sept. 19, 78. B.S, Vermont, 00; M.S, Washington (St. Louis), 03. Asst. hort, Maine, 01; biol, Vermont, 01; scientific aid, Bur. Soils, *U. S. Dept. Agr,* 01, special agent, *Bur. Plant Indust, Miss. Valley Lab,* 02–03, *scientific asst, 03–* M.A.A; Nat. Geog. Soc; St. Louis Biol. Club. Bitter rot disease of apples.—Life history of wood-rotting fungi; structure of woody cell walls.

Spencer, Miss Adelin E(lam), 1220 Washington Ave, New Orleans, La. *Chemistry.* Natchez, Miss, Dec. 31, 72. A.B, Newcomb, 90; A.M, Tulane, 94; M.S, Cornell, 96. Teacher science, High Sch, Monroe, La, 98–00; *instr. chem, Newcomb, 01–* Zirconium tetraiodid.

Spencer, Dr. Arthur C(oe), 1330 F St, Washington, D. C. *Geology.* Carmel, N. Y, Sept. 27, 71. B.S, Case, 92; Ph.D, Hopkins, 96. Asst. geologist, *U. S. Geol. Surv,* 96–02, *geologist, 02–* M.A.A; Geol. Soc; Min. Eng. General geology and ore deposits in Colorado, Wyoming, Alaska and Cuba.—The zinc and iron deposits in the pre-Cambrian rocks of New Jersey.

Spencer, Dr. Frank Clarence, Monte Vista, Colo. *Education, Anthropology.* Polk, O, Nov. 24, 66. B.S, Colorado, 94; Ph.D, Columbia, 99; hon. fellow, Clark, 99–00. Instr. math. and English, State Prep. Sch, Colorado, 93–94; supt. pub. schools, Monte Vista, Colo, 94–97; principal, Northwestern Nor. Sch, N. Mex, 00–01; *county supt. schools, 04–* Primitive education.—Evolution of methods in education.

Spencer, Dr. G(uilford) L(awson), Takoma Park, Washington, D. C. *Chemistry.* Lafayette, Ind, Dec. 21, 58. B.S, A.C, Purdue, 79, M.S, Michigan, 82; studied sugar mfg. in Europe, 82–83; Sc.D, Purdue, 91. Asst. chemist, *U. S. Dept. Agr,* 83–01, *chief, Sugar Lab, Bur. Chem, 01–* Chemist and supt, sugar works; reported on U. S. beet sugar indust. for 12th Census. Chem. Soc. Chemistry of beet sugar.

Spencer, Dr. J(oseph) W(illiam) (Winthrop), 2019 Hillyer Place, N. W, Washington, D. C. *Geology.* Dundas, Ont, March 26, 51. B.A.S, McGill, 74; Ph.D, Göttingen, 77; A.M, King's Col, N. S. With Can. Geol. Surv, 74; science master, Col.

Inst, Hamilton, Ont, 77–80; prof. chem. and geol. and v. pres, King's Col, N. S, 80–82; prof. geol, Missouri, 82–87; state geologist, Ga, 88–93; *Geol. Surv. of W. I. and Central Am, 94–* F.A.A; Geol. Soc; Can. Inst; fel. London Geol. Soc. Physical geology.—Geological development of the West Indies and Central America; geography of submarine valleys; great changes of level of land and sea; geology and physics of Niagara Falls and the Great Lakes.

Spenzer, Dr. John G(eorge), 261 Amesbury Ave, Cleveland, O. *Chemistry, Toxicology, Pharmacology.* Cleveland, Sept. 6, 64. M.D, Western Reserve, 84; Ph.D, Strasburg, 93. Asst. chem, Adelbert, 84–87; instr. pharmacol. and prof. chem, Western Reserve, 94–96; *prof. chem. and pharmacol, Cleveland Col. Physicians and Surg, Ohio Wesleyan, 96–* F.A.A; Chem. Soc; Am. Med. Ass; Ohio Med. Ass; Ohio Pharmaceut. Ass; Cleveland Acad. Med, Chem. Soc. and Pharmaceut. Ass; fel. London Chem. Soc; Chem. Gesell. Unsaturated fatty acids; preparation of a carbohydrate from egg albumin; β-bromvalerianic acid, chemically and crystallographically considered.—A scheme for separation of vegetable poisons; the delicacy of the tests for phenol.

Speyers, Prof. C(larence) L(ivingston), New Brunswick, N. J. **Physical chemistry.* New York, N. Y, Jan. 8, 63. Ph.B, Columbia, 84. Asst. *chem,* Missouri, 85–91; *assoc. prof, Rutgers, 91–* F.A.A; Chem. Soc; N. J. Micros. Soc. (pres, 01–02). Heat of solutions, molecular weights, solubilities and densities of some carbon compounds in carbon solvents; vapor pressures and boiling-points of mixed liquids; osmotic pressure.—Dielectric constants of solutions compared with dielectric constants of their compounds.

Spiller, Dr. William G(ibson), 4409 Pine St, Philadelphia, Pa. *Medicine.* Baltimore, Md, Sept. 13, 63. M.D, Pennsylvania, 92. Asst. clin. prof. nervous diseases and asst. prof. neuropath, *Pennsylvania,* 01–03, *prof. neuropath. and assoc. prof. neur, 03–* Prof. nervous diseases, Phila. Polyclinic; clin. prof, Women's Med. Col, Pa; neurologist, Phila. Hosp; ed, 'Jour. Nervous and Mental Disease.' Ass. Path. and Bact; Neur. Ass. (pres, 05); fel. Phila. Col. Physicians; Phila. Neur. Soc. (past pres.). The symptomatology and pathology of nervous diseases.

Spillman, Prof. W(illiam) J(asper), U. S. Department of Agriculture, Washington, D. C. *Agriculture.* Lawrence Co, Mo, Oct. 23, 63. B.S, Missouri, 86, M.S, 89. Prof. science, State Nor. Sch, Cape Girardeau, Mo, 87–89; Vincennes, Ind, 89–91; Ore. State Nor. Sch, 91–94; prof. agr, Wash. Agr. Col, 94–01; *agrostologist, U. S. Dept. Agr, 02–* F.A.A; Soc. Prom. Agr. Sci; Ind. Acad; Wash. State Acad; Wash. Biol, Bot. and Philos. Societies. Plant breeding; farm practise and underlying principles.—Laws of heredity in hybrids; economic agriculture.

Spinney, Prof. L(ouis) B(evier), Ames, Ia. *Physics, Electrotechnics.* Bradford, Ills, May 27, 69. B.M.E, Iowa State, 92, B.S, 93; Cornell, 93–94, 98–00; Berlin, 94–95; Zürich, 95–96. Asst. physics, *Iowa State,* 93–97, *prof. physics and elec. eng, 97–* F.A.A; Physical Soc; Elec. Eng; Eng. Educ. Elastic properties of glass; analysis of vowel sounds.

Spitzka, Dr. Edw(ard) Anthony, 66 E. 73d St, New York, N. Y. **Neuroanatomy.* New York, June 17, 76. Col. City of N. Y, 94–98; M.D, Columbia, 02, fellow, 02– *Demonstrator anat, Columbia, 04–* M.A.A; Ass. Anat; Anthrop. Ass. Human cerebral fissures; brain-weight; brains of eminent men; hereditary transmission of cerebral types; brains of races.—Id; comparative anatomy of the insula.

Spitzka, Dr. E(dward) C(harles), 66 E. 73d St, New York, N. Y. *Neurology, Psychiatry.* New York, Nov. 10, 52. Col. City of N. Y, 66–70; M.D, N. Y. Univ, 73; Leipzig, 73–74; Vienna, 74–75. Prof. nervous and mental diseases and med. juris, N. Y. Post-Grad. Col, 82–84. Hon. M.D, St. Louis Col. Physicians and Surg, 85. Ass. Anat; Neur. Ass. (pres, 90–91); Soc. Med. Juris; N. Y. Neur. Soc; N. Y. Path. Soc; N. Y. Acad. Med; hon. fel. Chicago Acad. Med; N. Y. Co. Med. Soc. Discoverer of interoptic lobes; pathology of paretic dementia; homology of corpora quadrigemina; anatomy of lemniscus tract; clinical features of grave delirium.—Race and heredity as related to insanity; historical rôle of mental disorders; errors regarding the abnormality of criminals.

Sprague, Frank (Julian), 116 Riverside Drive, New York, N. Y. **Electrical engineering.* Milford, Conn, July 25, 57. Grad, U. S. Naval Acad, 78. Officer, U. S. N, 78–84; asst. to T. A. Edison, 84; v. pres, Sprague Elec. Ry. and Motor Co, 84–90; consulting engineer, Edison Gen. Elec. Co, 90; pres. and v. pres, Sprague Elec. Elevator Co, 91–97; v. pres. and tech. director, Sprague Elec. Co, 98–01; *consulting engineer, Sprague Elec. Co. and Gen. Elec. Co, 02–* Mem. and sec'y, Jury, Crystal Palace Elec. Exhib, 82–83; director, Soc. française Sprague; mem. Terminal Commission for Elec. of N. Y. C. and H. R. R. R. Gold medal, Paris Exhib, 89; Elliot Cresson medal, Franklin Inst, 04; grand prize, La. Purchase Expos, 04. Elec. Eng. (pres, 92–93); Civil Eng; assoc. Naval Archit; Naval Inst; British Inst. Elec. Eng; British Inst. Civil Eng. Electricity; railway operation and power distribution; rapid transit; power transmission and utilization; stationary motors; pioneer modern trolley system; inaugurated high-speed electric elevators; invented multiple-unit system of electric railways.—Electrification of terminals of New York Central and Hudson River Railroad.

Springer, Dr. Alfred, 312 E. Second St, Cincinnati, O. **Chemistry, Physics.* Cincinnati, Feb. 12, 54. Ph.D, Heidelberg, 72. *Mfg. chemicals, Alex Fries and Bro, Cincinnati, 74–* F.A.A. (sec'y, Subsect. Chem, 81, sec'y, C, 82, asst. gen. sec'y, 83, gen. sec'y, 84, v. pres, 92); Chem. Soc; cor. mem. British Ass. The torsion bal-

ance aluminum sound boards; fermentation without combined nitrogen.—Fermentation.

Springer, Frank, Las Vegas, N. Mex. *Paleontology.* Wapello, Ia, June 17, 48. Ph.B, Iowa State, 67. *Lawyer, 68–* For. cor. London Geol. Soc. Fossil crinoids.—North American Crinoidea camerata; Crinoidea flexibilia.

Springsteen, Dr. Harry W(illiam), Bryn Mawr College, Bryn Mawr, Pa. *Physics.* Pittsburg, Pa, Feb. 5, 75. B.S, Case, 97, M.S, 00; A.M, Western Reserve, 00; Paris, 98; Ph.D, Hopkins, 04. Instr. *physics,* Case, 97–02; *assoc, Bryn Mawr, 04–* M.A.A; Physical Soc. Thermal conductivity of glass; the magnetic rotatory dispersion of sodium vapor.

Spurr, J(osiah) E(dward), U. S. Geological Survey, Washington, D. C. **Geology.* Gloucester, Mass, Oct. 1, 70. A.B, Harvard, 93, A.M, 94; Berlin, 97. Asst. geologist, Minn. Geol. and Nat. Hist. Surv, 93; *U. S. Geol. Surv,* 94–97, *geologist, 97–* Consulting mining expert to Sultan of Turkey, 01. Delegate, Int. Cong. Geol, St. Petersburg, 97. Geol. Soc; Min. Eng. Genesis of ore deposits; general geology.

Squier, Major George O(wen), U. S. A, Headquarters, Department of California, Phelan Building, San Francisco, Cal. *Physics, Electrical engineering, Mathematics, Chemistry.* Dryden, Mich, March 21, 65. Grad, U. S. Mil. Acad, 87; fellow, Hopkins, 92, Ph.D, 93, fellow by courtesy, 03. Instr, Dept. Elec. and Mines, U. S. Artil. Sch, Fort Monroe, Va, 95–98; commander, U. S. Cableship 'Burnside,' Philippine Archipelago, 01–02; *chief signal officer, Headquarters Dept. of Cal, 02–* John Scott medal, Franklin Inst. Physical Soc; Math. Soc; Elec. Eng. (pres, San Francisco Branch); Nat. Geog. Soc; Franklin Inst. Electrochemical effects due to magnetization; the polarizing photo-chronograph; the sine wave systems of telegraphy.—The sine wave systems of telegraphy; the absorption of electromagnetic waves by living vegetable organisms.

Squire, Mrs. C(arrie) R(anson), Dillon, Mont. *Psychology.* Mantorville, Minn, Jan. 27, 69. Ph.B, Hamline, 89; M.S, Minnesota, 98; Ph.D, Cornell, 01. Principal, Training Sch, State Nor. Col, Ala, 01–03; *prof. educ, State Nor. Sch, Mont, 03–* Genetic study of rhythm; fatigue.—Play in its relation to education; the development of the esthetic judgment.

Squires, Prof. William H(arder), Clinton, N. Y. *Philosophy.* Auburn, N. Y, April 23, 63. A.B, Hamilton, 88; Auburn Theol. Sem, 90; A.M, Hamilton, 91; Ph.D, Leipzig, 01. *Prof. psychol, Hamilton, 91–, dean of Faculty.* Philos. Ass. Jonathan Edwards' theory of the will.—The history of philosophy in America; the conception of the will in Edwards, Schopenhauer and Wundt.

Stabler, Dr. Edward L(incoln), 135 Willow St, Brooklyn, N. Y. *Actuarial mathematics.* Brooklyn, April 20, 65. A.B, Columbia, 85, fellow, 85–88, A.M, 86, Ph.D, 88. Actuary, Manhattan Life Ins. Co, 89–98; *with U. S. Leather Co.* Math. Soc; Actuarial Soc.

Stanley, William, Great Barrington, Mass. **Electrical engineering.* Brooklyn, N. Y, Nov. 22, 68. Yale. Chief engineer, Westinghouse Elec. Co, 85–90; Stanley Elec. Mfg. Co, 90–95; *consulting engineer, 95–* Elec. Eng; Int. Soc. Elec. Eng; British Inst. Elec. Eng. Electrical transmission of power; systems of electrical distribution.—Catalytic power of metals; standards of measurement.

Stanley-Brown, J(oseph), 35 Cedar St, New York, N. Y. *Geology.* Washington, D. C, Aug. 19, 58. A.B, Yale, 88. Stenographer to Major Powell, Geol. Surv. of Rocky Mt. Region, 77–79; private sec'y, Pres. Garfield, 80–81; mem. U. S. Geol. Surv, 82–85, asst. geologist, 88–90; expert, Bering Sea Arbitration, 91–93; gen. supt, N. A. Com'l Co. of Alaska, 94–99; asst. sec'y, U. P, S. P, and other railroad systems, 99–02; asst. to pres, Long Isl. R. R. Co, 02–04; *in charge, Railroad Dept, Fish and Robinson, bankers, 05–* M.A.A; Geol. Soc. (ed, 'Bul,' 92–); Nat. Geog. Soc; Wash. Geol. Soc.

Stansfield, Prof. A(lfred), McGill University, Montreal, Can. *Metallurgy.* Bradford, England, March 18, 71. Bradford Tech. Col, 86–88; Royal Col. Science, London, 88–91; Assoc, Royal Sch. Mines, 91, Sc.D, 98. Instr. assaying, Royal Sch. Mines, 98–01; *prof. metal, McGill, 01–* Asst. to Sir W. Roberts-Austen in researches on alloys for London Inst. Mech. Eng, 91–98; Carnegie research scholar, 00–01. Min. Eng; Can. Min. Inst; Can. Inst. Civil Eng; fel. London Chem. Soc; fel. London Geol. Soc; Gt. Britain Iron and Steel Inst; British Ass. Thermoelectric pyrometer; alloys.—Interdiffusion of solid metals; electric smelting of ores.

Stanton, Dr. T(imothy) W(illiam), 54 S St, N. W, Washington, D. C. **Paleontology, Geology.* Monroe Co, Ills, Sept. 21, 60. B.S, Colorado, 83; Hopkins, 88–89; M.S, Colorado, 96; Ph.D, Columbian, 97. Asst. state librarian, Colo, 85–88; asst. paleontologist, *U. S. Geol. Surv,* 89–00, paleontologist, 00–03, *geologist, 03–* Instr. paleont. and stratig. geol, Columbian, 95–03. F.A.A; Geol. Soc; Wash. Acad; Wash. Biol. Soc; Wash. Geol. Soc. Invertebrate fauna and stratigraphy of the Mesozoic.—Lower Cretaceous fauna of the Texan region; Mesozoic of the Pacific Coast.

Starbuck, Prof. Edwin D(iller), Earlham College, Richmond, Ind. *Education.* Bridgeport, Ind, Feb. 20, 66. A.B, Indiana, 90; A.M, Harvard, 95; Ph.D, Clark, 97. Teacher math. and Latin, High Sch, Spiceland, Ind, 90–91; prof. math, Vincennes, 91–93; asst. prof. *educ,* Stanford, 97–04; *prof, Earlham, 04–* Lecturer, Pacific Theol. Sem, 02–03; Summer Sch, Western Reserve, 03; Woodbrooke Summer Sch, England, 03; Summer Sch. of the South, Knoxville, 04. Soc. Sci. Educ. The psychology of religion; the after effects of kindergarten instruc-

tion; lines of growth in children as shown by psychophysical tests; the feelings and their place in religion.—The psychological content of religion; the physical basis of mental peculiarities; psychophysical studies of children.

Starks, Edwin Chapin, Box 26, Stanford University, Cal. *Zoology.* Baraboo, Wis, Jan. 25, 67. Stanford, 93–97. Asst, U. S. Biol. Surv, 97–99; curator and asst. prof. *zool,* Washington (Seattle), 99–01; *curator, Stanford, 01–* Mem. Hopkins Exped. to Mex, 95; Panama, 96; Harriman Exped. to Alaska, 99; representative, Cal. Acad. on sea-lion investigations, U. S. Fish Commission, 01. M.A.A. Ichthyology; osteology of fishes; fishes of the Pacific.—Relationships of fishes.

Starr, Prof. Frederick, University of Chicago, Chicago, Ills. *Anthropology.* Auburn, N. Y, Sept. 2, 58. Rochester, 78–80; B.S, Lafayette, 82, M.S, Ph.D, 85. Teacher science, Wyman Inst, 82–83; science and hist, Central State Nor. Sch, Lockhaven, Pa, 83–84; biol. and geol, Coe, 84–87; registrar, Chautauqua, 87–89; curator ethnol, Am. Mus. Nat. Hist, 89–91; asst. prof. *anthrop, Chicago,* 92–95, *assoc. prof, 95–* Prof. geol. and anthrop, Chautauqua, 85–92; dean, Scientific Dept, Pomona, 91. F.A.A; Nat. Cent. States; Folk-lore Soc; hon. mem. Davenport Acad; cor. mem. Wis. Hist. Soc; cor. mem. Soc. Cient. Ant. Alz; cor. mem. Mex. Geog. y Estad; hon. mem. London Folk-lore Soc; cor. mem. Soc. d'Anthrop. de Paris; hon. cor. mem. Soc. Ital. d'Antrop, Etnol. e Psicol. comp. Anthropology and ethnology, especially of southern Mexico.—Anthropology and ethnology of south Mexican tribes.

Starr, Dr. Louis, 1818 S. Rittenhouse Square, Philadelphia, Pa. *Medicine, Diseases of children.* Philadelphia, April 25, 49. A.B, Haverford, 68; M.D, Pennsylvania, 71. Instr. physiol. and therapeut, Pennsylvania, 74–77, lecturer, symptomat, 77–79; *consulting pediatrist, Maternity Hosp, 79–;* lecturer diseases of children, Pennsylvania, 80–84, clin. prof, 84–90. Asst. physician, Children's Hosp, Phila, 74; visiting physician, Episcopal Hosp, 75–84; Children's Hosp, 79. Hon. mem. Am. Physicians; Pediat. Soc; hon. mem. Chicago Acad; fel. Phila. Col. Physicians. Hygiene and diseases of infancy and childhood.

Starr, Prof. M(oses) Allen, 5 W. 54th St, New York, N. Y. **Neurology, Psychology.* Brooklyn, N. Y, May 16, 54. A.B, Princeton, 76; Berlin, 76–77; A.M, Princeton, 79; Heidelberg, 82; Vienna and Paris, 82–83. *Prof.* nervous diseases, N. Y. Polyclinic, 84–88; *diseases of mind and nervous system, Columbia, 88–* Consulting physician, Presbyterian, St. Vincent's and St. Mary's Hospitals and N. Y. Eye and Ear Infirmary. Hon. Ph.D, Princeton, 84, LL.D, 99; Sc.D, Columbia, 04. F.A.A; Am. Physicians; Psychol. Ass; Neur. Ass. (pres, 96–97); N. Y. Neur. Soc. (pres, 94–97); N. Y. Acad. Med. (cor. sec'y, 88–99, v. pres, 03–); N. Y. Med. and Surg. Soc; N. Y. Practitioner's Soc; fel. N. Y. Acad; for. mem. London Neur. Soc; cor. mem. Soc. de Neur. de Paris. Neurology.—Surgery of the brain and spinal cord; nervous diseases.

Stearns, Prof. H(erman) D(eClercq), Stanford University, Cal. *Physics.* Joliet, Ills, Sept. 10, 65. Lake Forest, 87–88, 90–91; A.B, Stanford, 92, A.M, 93; Berlin, 97–98. Asst. *physics, Stanford,* 92–93, instr, 94–97, asst. prof, 97–00, *assoc. prof, 00–* M.A.A; Physical Soc; Meteor. Gesell. Magnetic susceptibility; thunderstorms.—Magnetic susceptibility of solutions.

Stearns, Dr. R(obert) E(dwards) C(arter), 1025 E. 18th St, Los Angeles, Cal. **Zoology, Agriculture, Botany.* Boston, Mass, Feb. 1, 27. Pub. schools; private study. Paymaster and res. clerk, Lake Superior copper mines, 54–56; farming in Norfolk Co, Mass, 56–58; ed. staff, 'The Pacific,' in chief printing and publishing house, San Francisco, 58–62; deputy clerk, Supreme Court, Cal, 62–63; sec'y, Board of State Harbor Commissioners, 63–68; collecting nat. hist. material in Fla, 68–69; farming in Sonoma Co, Cal, 71–73; sec'y, Board of Regents, California, 74–82; adj. curator, Dept. Mollusks, U. S. Nat. Mus, and paleontologist, U. S. Geol. Surv, 84–92; *hon. assoc. in zool, U. S. Nat. Mus, 92–* Hon. Ph.D, California, 82. F.A.A; cor. mem. Cal. Hort. Soc; hon. life mem. Cal. Acad; hon. mem. S. Cal. Hist. Soc; cor. Phila. Acad; cor. mem. N. Y. Acad; cor. mem. Chicago Acad; Wash. Acad; cor. mem. Davenport Acad; cor. mem. Vienna K. K. Zool.-Bot. Gesell. The geographical distribution and variation of molluscan species; ethnoconchology; descriptions of new genera and species of alcyonoid polyps; forest trees and forestry.

Stearns, Dr. T(heron) C(lark), 44 Montgomery St, Jersey City, N. J. *Chemistry.* Chicago, Ills, Nov. 14, 54. M.D, Northwestern, 76. Asst. chem. and in office of preceptor, Med. Dept, Northwestern, 69, 76; tutor, 72–74; practising physician, 76–81; *consulting chemist, 81–* M.A.A; Chem. Soc; Soc. Chem. Indust; Chem. Verein. Chemistry of aromatic compounds.—Id; influence of habitat on life history of molds, fungi and allied micro-organisms.

Stebbins, Dr. James H, Jr, 27 E. 22d St, New York, N. Y. *Chemistry, Microscopy.* Brooklyn, N. Y, June 4, 57. B.S, Harvard, 78; M.S, Rutgers, 80; Ph.D, Omaha, 93. Chemist, various companies, 79–86; anal. and consulting chemist, 80–00. Chem. Soc; Soc. Chem. Indust; Micros. Soc; Pub. Health Ass; N. Y. Micros. Soc. Chemistry of the azo-compounds; occurrence of haemoporidia in the blood of Rana catesbiana.—Photochemical action of light upon diazo-compounds; parasites in the blood of reptiles, turtles, etc; desmids of Jefferson Co, N. Y; occurrence of Trypanosoma in the blood of Rana clamata.

Stebbins, Dr. Joel, University of Illinois Observatory, Urbana, Ills. *Astronomy.* Omaha,

Nebr, July 30, 78. B.S, Nebraska, 99, grad. student, 99–00; Wisconsin, 00–01; fellow, Lick Observatory, California, 01–03, Ph.D, 03. Asst, Washburn Observatory, Wisconsin, 00–01; instr. *astron, Illinois,* 03–04, *asst. prof, 04–* Astron. and Astrophys. Soc; Pacific Astron. Soc. The spectrum of o Ceti with 36-inch Lick telescope.—Photometric measures of double stars.

Stecker, Dr. H(enry) F(reeman), 113 Stewart Ave, Ithaca, N. Y. **Mathematics.* Sheboygan, Wis, June 3, 67. B.S, Wisconsin, 93, fellow, 93–95, M.S, 94, Ph.D, 97, hon. fellow, 97; Göttingen, 00–01. Asst. *math,* Wisconsin, 90–95; *instr,* High Sch, Burlington, Ia, 95–97; Northwestern, 97–00; *Cornell, 01–* Math. Soc; Math. Verein. Pure mathematics.—Relation between the irreducible linear differential equation and its indicial equation.

Stedman, Dr. Henry R(ust), South St, Brookline, Mass. *Mental disease.* Boston, Mass, Sept. 19, 49. A.B, Harvard, 71, M.D, 75. Asst. physician and acting supt, Danvers Insane Hosp, 79–84; *supt. and res. physician, 'Bournewood,' Brookline, Mass, 84–* Med. house-officer, Boston City Hosp; surg. house-officer, Mass. Gen. Hosp; asst. physician, Edinburgh Royal Asylum; West Riding Asylum, Yorkshire, England; trustee, Taunton Insane Hosp, Taunton, Mass. Neur. Ass. (pres, 05–06); Medico-Psychol. Ass; Mass. Med. Soc; N. Y. Psychiat. Soc; Boston Soc. Psychiat. and Neur. (past pres.); Boston Soc. Med. Improv; Boston Soc. Med. Sci. Dementia precox and its pathogeny; prognosis of mental disease; separate care and treatment of epileptics; insanity and marriage; after-care of the insane.

Stedman, Prof. J(ohn) M(oore), Columbia, Mo. *Entomology.* Brockport, N. Y, Nov. 2, 64. B.S, Cornell, 88. Instr. entom. and invert. zool, Cornell, 88–90; biologist, U. S. Dept, Agr, 90–91; prof. biol, Trinity (N. C.), 91–93; prof. biol. and biologist, Exp. Sta, Ala. Polytech, 93–95; *prof. entom, Missouri, and entomologist, Exp. Sta, 95–* Micros. Soc; Ass. Econ. Entom; Wash. Entom. Soc; St. Louis Acad. Economic entomology; general biology.—Tapeworms of sheep; economic entomology; biological entomology

Steele, E(dward) S(trieby), 1522 Q St, Washington, D. C. *Philosophy, Botany.* Farmingdale, Ills, April 20, 50. A.B, Oberlin, 72; B.D, Oberlin Theol. Sem, 77; Andover Theol. Sem, 81–83; Harvard Divinity Sch, 83–84; Leipzig, 86–87; Harvard Divinity Sch, 87–88. Pastor, 77–81; prof. philos. and ethics, Middlebury, 85–86; sub-editor, 'Century Dict,' 89–91; bot. clerk, U. S. Dept. Agr, 91–02; *ed. asst, Div. Plants, U. S. Nat. Mus, 02–* Philos. Ass; Wash. Soc. Philos. Inquiry; Wash. Biol. Soc. Epistemology, especially the logical function; religion; systematic botany.

Steele, Dr. J(ohn) Dutton, N. E. Corner 40th and Locust Sts, Philadelphia, Pa. *Medicine, Pathology.* Sterling, N. Y, Feb. 21, 68. A.B, Williams, 88; M.D, Pennsylvania, 93; Heidelberg, 95. Asst. demonstrator morbid anat, *Pennsylvania,* 95–98, instr. clin. med, 98–02, *assoc. med, 02–* Bacteriologist, Presbyterian Hosp, Phila; assoc, Pepper Clin. Lab, Pennsylvania, 95–99. Ass. Path. and Bact; assoc. mem. Am. Physicians; Gastro-Enterol. Ass; fel. Phila. Col. Physicians; Phila. Path. Soc. Pathology and diagnosis of the heart, pleura and gastro-intestinal tract.

Steele, Prof. W(arren) M(errill), 418 Choice Ave, Greenville, S. C. *Philosophy.* Amherst, N. S, Nov. 20, 74. A.B, Acadia, 02; A.B, Yale, 03, A.M, 04. Instr, Horton Col. Acad, 99–00; asst. psychol, Yale, 03–04; *prof. philos, Furman, 04–* M.A.A; Psychol. Ass. Illusions and accompanying eye movements.

Steere, Prof. J(oseph) B(eal), Ann Arbor, Mich. *Zoology.* Rollin, Mich, Feb. 9, 42. A.B, Michigan, 68, B.L, 70, Ph.D, 75. Asst. prof. paleont, Michigan, 76–77, zool. and paleont, 77–79, prof. zool. and curator, Mus, 79–81. Cor. mem. London Zool. Soc. Zoology of the Philippines; ethnology of the Philippines and of South America.—Philosophy of classification of animals.

Steiger, Geo(rge), Cosmos Club, 15½ and H Sts, Washington, D. C. *Chemistry.* Columbia, Pa, May 27, 69. B.S, Columbian, 90, M.S, 92. *Chemist, U. S. Geol. Surv, 92–* F.A.A; Chem. Soc; Min. Eng; Wash. Geol. Soc. The structure of certain silicates.—Substitution products of certain natural and artificial silicates.

Steiner, Dr. Walter R(alph), 4 Trinity St, Hartford, Conn. *Pathology, Medicine, Medical history.* Frederick City, Md, Nov. 18, 70. A.B, Yale, 92, A.M, 95; M.D, Hopkins, 98. *Pathologist and bacteriologist, Hartford Hosp, 01–* Ass. Path. and Bact; fel. Am. Acad. Med; Conn. Med. Soc. Pathology; internal medicine; the history of medicine.

Steinmetz, Prof. Charles P(roteus), Wendall Ave, Schenectady, N. Y. **Electrical engineering.* Breslau, Germany, April 9, 65. Breslau, 82–88; Zürich, 88–89; Eickemeyer Lab, Yonkers, N. Y, 89–92. *Electrician, Gen. Elec. Co, Schenectady, N. Y, 93–; prof. elec. eng, Union, 03–* Hon. A.M, Harvard; Ph.D, Union. F.A.A; Math. Soc; Physical Soc; Elec. Eng. Synthetic geometry; vector analysis of alternating currents; magnetism and hysteresis; dielectrics; theory of electrical apparatus and phenomena. —Electrochemistry.

Stejneger, Leonhard, U. S. National Museum, Washington, D. C. **Biology.* Bergen, Norway, Oct. 30, 51. Cand. art, Christiania, 70, cand. philos, 72, cand. juris, 75. Observer, U. S. Signal Service, 82–83; asst. curator birds, *U. S. Nat. Mus,* 84–89, *curator reptiles, 89–* Mem. U. S. Fur-seal Commission, 96–97; publishing committee, U. S. Nat. Mus. F.A.A; fel. Ornith. Union; Geog. Ass; Wash. Acad; Wash. Biol. Soc; cor. mem. Phila. Acad; hon.

mem. Cal. Acad; Christiania Sci. Soc; cor. mem. British Ornith. Union; London Zool. Soc; life mem. Bergen Mus. Geographical distribution of vertebrates; systematic ornithology and herpetology.—Antillean fauna; Japanese mammalogy, ornithology and herpetology; palearctic geographical distribution

Stengel, Dr. Alfred, 1811 Spruce St, Philadelphia, Pa. **Medicine, Pathology.* Pittsburg, Pa, Nov. 3, 68. M.D, Pennsylvania, 89. Instr. *clin. med,* Pennsylvania, 93–98; *prof,* Woman's Med. Col, Phila, 96–98; *Pennsylvania, 98–* Physician, Howard, Philadelphia, Univ. and Pa. Hospitals; ed, 'Am. Jour. Med. Science'; director, Wm. Pepper Lab. Clin. Med. Am. Physicians; Ass. Path. and Bact; Pediat. Soc; Climat. Ass; Philos. Soc; Wash. Acad; Phila. Col. Physicians; Phila. Path, Neur. and Pediat. Societies. Diseases of the blood, heart and circulation; pathology.—Clinical medicine.

Stephens, Prof. H(enry) M(atthew), 111 S. College St, Carlisle, Pa. *Biology.* Neosho, Mo, Jan. 4, 68. A.B, Dickinson, 92, A.M, 94; Mass. Inst. Tech, 94. Instr. *biol, Dickinson,* 92–95, adj. prof, 95–99, *prof, 99–* M.A.A; Chem. Soc. Water analysis, in connection with study of Susquehanna River drainage basin.—Ash content of plants; comparative study of the same forms under inland and marine habitat.

Sternberg, Gen. Geo(rge) M(iller), U. S. A. (retired), War Department, Washington, D. C. **Bacteriology, Hygiene.* Hartwick Seminary, N. Y, June 8, 38. M.D, Col. Physicians and Surg, N. Y, 60. Asst. surgeon, capt, major and surgeon, lieut. col. and deputy surgeon gen, U. S. A, 61–93, brig. gen. and surgeon gen, 93–02. Hon. fellow, Hopkins, 80–81, 85–87; LL.D, Michigan, 94; Brown, 97. F.A.A; Physiol. Soc; Am. Physicians; Am. Med. Ass. (pres, 97); Pub. Health Ass. (pres, 87); Ass. Mil. Surg. (pres, 99); Wash. Acad; Wash. Biol. Soc. (pres, 96); Wash. Philos. Soc. (pres, 97). Etiology of infectious diseases; disinfectants; bacteria.

Sterrett, Rev. Dr. J(ames) Macbride, George Washington University, Washington, D. C. *Philosophy.* Howard, Pa, Jan. 13, 47. A.B, Rochester, 67; A.M, Harvard, 70; B.D, Cambridge Episcopal Theol. Sch, 72. *Prof.* ethics and apologetics, Seabury Divinity Sch, 82–92; *philos, George Washington, 92–* D.D, Rochester, 86. Philos. Ass; Wash. Soc. Philos. Inquiry (pres, 93–). Hegel's philosophy of religion; the ethics of Hegel; reason and authority in religion; the freedom of authority.

Stetson, George R(ochford), 1441 Massachusetts Ave, N. W, Washington, D. C. *Anthropology, Ethnology.* Boston, Mass, Nov. 28, 33. Boston schools; Braintree Acad. M.A.A; Acad. Polit. and Social Sci; Wash. Soc. Philos. Inquiry; Wash. Philos. Soc. Negro race and education.

Stevens, Prof. F(rank) L(incoln), West Raleigh, N. C. *Mycology, Plant diseases.* Syracuse, N. Y. April 1, 71. B.L, Hobart, 91; B.S, Rutgers, 93; Ohio State, 94–96; M.S, Rutgers, 97; fellow, Chicago, 98–99, Ph.D, 00, traveling fellow (Bonn, Halle and Naples), 00–01. Instr. science, Racine, 93–94; North High Sch, Columbus, O, 94–98; sanitary analyst, Chicago Drainage Canal, 98–00; instr. biol, *N. C. Agr. and Mech. Col,* 01–02, *prof,* 02–03, *bot. and veg. path, 03–* F.A.A; Soc. Nat; assoc. Bot. Soc; Mycol. Soc; Breeders' Ass; fel. N. C. Acad. (pres.). Cytology of fungi; plant diseases; tobacco wilt; melon wilt; lettuce rot.—Cytology of Synchytrium; diseases of plants.

Stevens, Dr. George T(homas), 22 E. 46th St, New York, N. Y. *Ophthalmology, Neurology.* Jay, N. Y, July 25, 32. M.D, Castleton Med. Col, 57. Surgeon, U. S. Vols, 61–65; prof. ophthal. and physiol, Albany Med. Col, 70–76; *practising physician, 76–* Operating surgeon, Army of Potomac; Am. ed, 'Annales d'Oculistique,' 94–96. Award, Belgian Royal Acad. of Med, 83; hon. Ph.D, Union. M.A.A; Ophthal. Soc; Am. Med. Ass; Otol. Soc; Ethnol. Soc. Ophthalmology; nervous diseases.—Facial expressions and the pose of the body.

Stevens, Dr. H(erman) C(ampbell), Box 110, University Station, Seattle, Wash. *Psychology.* Elkhart, Ind, Nov. 12, 78. A.B, Michigan, 01; Ph.D, Cornell, 05. Asst. *psychol,* Cornell, 03–05; *asst. prof, Washington (Seattle), 05–* The relation of vasomotor waves to time judgments; a plethysmographic study of attention.

Stevens, Prof. James S(tacy), Orono, Me. *Physics.* Lima, N. Y, Aug. 21, 64. B.S, Rochester, 85, M.S, 88; non-res. student, Syracuse, 88–90; Chicago, 95–96. Instr. science, Cook Acad, Montour Falls, N. Y, 85–91; *prof. physics, Maine, 91–, dean, Col. Arts and Sciences, 05–* F.A.A; Physical Soc; Me. Teachers' Ass. (pres, Sci. Sect.). Relation of magnetization to the modulus of elasticity; method of determining surface tension; relation of internal and external resistance; atmidometry; molecular contact; refractive indices of mixtures; new physical pendulum; meteorology of Orono, Me, 1869–1904.—Radio-activity; Young's modulus by interference methods.

Stevens, Dr. N(ettie) M(aria), Box 133, Bryn Mawr, Pa. *Biology.* Cavendish, Vt, July 7, 61. A.B, Stanford, 99, A.M, 00; Ph.D, Bryn Mawr, 03. Reader *exp. morph, Bryn Mawr,* 04–05, *assoc, 05–* Research asst, Carnegie Inst, 03– Prize, Ass. for Prom. Sci. Research among Women, 05. M.A.A. Regeneration; ovogenesis; spermatogenesis; sex determination.—The ovary and oviduct of Sagitta; insect spermatogenesis and ovogenesis, with reference to sex determination.

Stevens, Prof. W(alter) Le Conte, Washington and Lee University, Lexington, Va. **Physics.* Bartow Co, Ga, June 17, 47. A.B, South Carolina, 68; Virginia, 76–77; Ph.D, Georgia, 82; Strasburg, Berlin and Zürich, 90–92. Instr. chem, Oglethorpe, 70–72; physics and chem, Chatham Acad, Savannah, Ga, 73–76; math,

Cooper Inst, New York, 79–82; *prof. physics*, Packer Col. Inst, 82–90; Rensselaer, 92–98; *Washington and Lee, 98–* F.A.A. (sec'y, B, 93, v. pres, 95); Physical Soc; Philos. Soc; N. Y. Acad; fel. Royal Micros. Soc. Physiological optics; acoustics.

Stevens, Prof. W(illiam) C(hase), 1121 Louisiana St, Lawrence, Kas. *Botany.* Princeton, Ills, Feb. 21, 61. A.B, Kansas, 85, M.S, 93; Bonn, 97. Instr. science, High Sch, Emporia, Kas, 85–89; asst. nat. hist, *Kansas*, 89–94, assoc. prof. *bot*, 94–99, *prof*, *99–* Bot. Cent. States. Sporogyny in pteridophytes and spermatophytes.—Adaptation to environment in plants through tissue modification.

Stevenson, Mrs. Cornelius (Sara Yorke), 237 S. 21st St, Philadelphia, Pa. *Archeology, Civics.* Paris, France, Feb. 19, 47. Institution Descauriet, Cours Rémy, etc. Sec'y, Dept. Archeol, Pennsylvania, 94–02, pres, 02–05; curator, Egyptian Sect, *Am. Explor. Soc*, 94–05, *sec'y*, *94–* Trustee, Philadelphia Mus, 94–01; pres, Civic Club of Phila, 94–99; Acorn Club, 94–; v. pres, Jury Ethnol, Columbian Expos, 93; mem. London Committee, Egypt. Explor. Fund. Hon. Sc.D, Pennsylvania. Philos. Soc; Archeol. Inst. (pres, Pa. Branch, 98–01); Oriental Soc; Pa. Hist. Soc; Phila. Oriental Club. Archeology; civics; history.—Best museum methods of obtaining, displaying and preserving scientific material.

Stevenson, Prof. J(ohn) J(ames), University Heights, New York, N. Y. **Geology.* New York, Oct. 10, 41. A.B, N. Y. Univ, 63, A.M, 66, Ph.D, 67. *Prof.* chem. and nat. hist, West Virginia, 69–71; *geol, N. Y. Univ, 71–* Aid, Ohio Geol. Surv, 71–72, 74; geologist, U. S. Geol. Surv, 73, 78–79, 80; Second Pa. Geol. Surv, 75–82. LL.D, Princeton, 93; Washington and Jefferson, 02. F.A.A. (v. pres, 91); Geol. Soc. (pres, 99); Philos. Soc; fel. N. Y. Acad. (pres, 96–98); Leop.-Carol. Akad; etc. Carboniferous of the Appalachian Basin.—Monograph of Carboniferous of the Appalachian Basin.

Stevenson, Mrs. Matilda Coxe, 1303 P St, N. W, Washington, D. C. *Ethnology.* San Augustine, Tex, May 12, 50. Private sch. *Ethnologist, Bur. Am. Ethnol, 90–* Mem. Jury Awards, Columbian Expos, 93. Medal, Expos, Madrid; silver medal, Columbian Expos, 93; diploma and medal, La. Purchase Expos, 04. F.A.A; Wash. Acad; Wash. Anthrop. Soc. Philosophy, religion and sociology of the Pueblo Indians.—Comparative study of the Pueblos of the southwest.

Stewardson, Pres. Langdon C(heves), Hobart College, Geneva, N. Y. *Philosophy.* Marietta, Ga, Nov. 10, 50. A.B, Kenyon, 73; B.D, Phila. Episcopal Divinity Sch, 76; Leipzig and Berlin, 84–87. Rector, Church of Reconciliation, Webster, Mass, 80–84; St. Mark's, Worcester, Mass, 88–98; prof. philos. and chaplain, Lehigh, 98–03; *pres, Hobart, 03–* LL.D, Kenyon, 03; Alfred, 04. Philos. Ass; Psychol. Ass; Am. Soc. Oriental Lang. Religion; ethics.

Stewart, Prof. Colin C(ampbell), Dartmouth Medical College, Hanover, N. H. **Physiology.* Owen Sound, Ont, Aug. 15, 73. A.B, Toronto, 94; fellow, Clark, 95–97, Ph.D, 97. Asst. *physiol*, Harvard Med. Sch, 97–98; tutor, Col. Physicians and Surg, Columbia, 98–00; demonstrator, Pennsylvania, 00–03, asst. prof, 03–04; *assoc. prof, Dartmouth, 04–* Instr, Summer Sch, Clark, 95, 97; Pennsylvania, 02. M.A.A; Physiol. Soc. The physiology of mammalian smooth muscle; the nerve supply of the viscera; alcohol.—Muscle physiology.

Stewart, Dr. David D(enison), 1633 Spruce St, Philadelphia, Pa. *Medicine.* Philadelphia, Oct. 10, 58. M.D, Jefferson Med. Col, 79. Chief, Med. Clinic, Jefferson Med. Col, 87–88, lecturer diseases of nervous system, 88–90, clin. med, 90–94; prof. gastro-intestinal diseases, Phila. Polyclinic, 95–03. Physician, St. Christopher's, St. Mary's and Episcopal Hospitals; consultant, Kensington Hosp. for Women. Am. Physicians; Am. Med. Ass; Gastro-Enterol. Ass. (pres, 98, 99); Phila. Co. Med. Soc; Phila. Col. Physicians; Phila. Neur. Soc; Phila. Path. Soc; cor. mem. Edinburgh Medico-Chirurg. Soc. Lead poisoning; diseases of the nervous system; urinalysis and disease of the kidney; treatment of aneurism by electrolysis through wire; diseases of the gastro-intestinal system.

Stewart, Dr. De Lisle, Cincinnati Observatory, Station O, Cincinnati, O. *Astronomical photography.* Wabasha, Minn, March 16, 70. B.L, Carleton, 91, Ph.D, 95. Principal district sch, Fertile, Minn, 91–92; asst, Goodsell Observatory R. R. Time Signals, 93–95; Arequipa Branch, Harvard Col. Observatory, 96–02; *asst, Observatory, and instr. astron, Cincinnati, 03–; observer, Int. Latitude Service, 05–* Asst, Eros plate measurements, Goodsell Observatory, Carleton, 02. Examination of photographic plates of Bruce telescope for new nebulae, asteroids, etc.—Methods of plate measurement.

Stewart, F(red) C(arlton), Geneva, N. Y. *Plant pathology.* French Creek, N. Y, Feb. 13, 68. B.S, Iowa State, 92, M.S, 94. Asst. botanist, Ia. Exp. Sta, 91–94; *botanist, N. Y. State Agr. Exp. Sta, 94–* F.A.A; Soc. Plant Morph. and Physiol. Diseases of cultivated plants.—Diseases of raspberries and blackberries.

Stewart, Dr. G(eorge) N(eil), University of Chicago, Chicago, Ills. **Physiology.* London, Ont, April 18, 60. A.M, Edinburgh, 81, Mackay-Smith scholar, 83–84; Berlin, 86–87; Sc.D, Edinburgh, 87; George Henry Lewes student, Cambridge, 89–93; M.D, Edinburgh, 90; D.P.H, Cambridge, 92; Strasburg, 92. Asst, Physics Lab, Edinburgh, 79–80; senior demonstrator physiol, Victoria, 87–89; examiner physiol, Aberdeen, 90–94; prof. physiol. and histol, Western Reserve, 94–03; *prof. physiol.*

and head, Dept. Physiol, Chicago, 03– Physiol. Soc; Soc. Exp. Biol. and Med; London Physiol. Soc. Electrophysiology of the nerve; Talbot's law; the nerve of the heart; the circulation time; hemolysis.—The action of hemolytic and agglutinative agents on the blood corpuscles and other cells; the permeability of animal cells.

Stewart, Dr. G(eorge) W(alter), Grand Forks, N. Dak. **Physics.* St. Louis, Mo, Feb. 22, 76. A.B, De Pauw, 98; Ph.D, Cornell, 01. Asst. *physics,* Cornell, 99–01, instr, 01–03; asst. prof, *North Dakota,* 03–04, *prof, 04–* Instr, Summer Sch, Lehigh, 02; Missouri, 03. M.A.A; Physical Soc. Radiation; distribution of energy in spectra; architectural acoustics.

Stewart, Dr. James, 285 Mountain St, Montreal, Can. *Medicine.* Osgoode, Ont, Nov. 19, 46. McGill. *Prof.* pharmacol. and therapeut, *McGill,* 83–91, clin. med, 91–93, *med, 93–* Am. Physicians (pres, 02–03). Neurology; rheumatoid arthritis; typhoid fever; cerebrospinal fever.

Stewart, Prof. O(scar) M(ilton), Columbia, Mo. **Experimental physics.* Neosho, Mo, Nov. 3, 69. Ph.B, De Pauw, 92; fellow, Cornell, 95–96, Ph.D, 97. Prof. physics and chem, Baker, 92–94; asst. *physics,* Cornell, 96–98, instr, 98–01; asst. prof, *Missouri,* 01–03, asst. prof. in charge, 03–05, *prof, 05–* F.A.A; Physical Soc. Electrical conductivity of gases.

Stieglitz, Prof. Julius (Oscar), 6026 Monroe Ave, Chicago, Ills. **Chemistry.* Hoboken, N. J, May 26, 67. Abiturient, Realgym, Karlsruhe, 86; Ph.D, Berlin, 89. Docent *chem, Chicago,* 92–93, asst, 93–94, instr, 94–97, asst. prof, 97–02, assoc. prof, 02–05, *prof, 05–* F.A.A; Chem. Soc; Chem. Gesell. The Beckmann molecular rearrangements; isoureas; saponification of imido-ethers; carbimid bases.—Saponification of imido-ethers; positive halogen ions; molecular rearrangement velocities.

Stiles, Dr. Ch(arles) Wardell, Hygienic Laboratory, 25th and E Sts, N. W, Washington, D. C. **Medical zoology.* Spring Valley, N. Y, May 15, 67. Wesleyan, 85–86; Col. de France, 86–87; Berlin, 87–89; Ph.D, Leipzig, 90; Trieste Zool. Sta, 91; Pasteur Inst. and Col. de France, 91. Zoologist, Bur. Animal Indust, U. S. Dept. Agr, 91–02; *prof. med. zool, Georgetown, 92–; zoologist, U. S. Pub. Health and Marine Hosp. Service, 02–* Hon. custodian helminthol. collections, U. S. Nat. Mus, 93–; sec'y, Advisory Committee, Smithsonian table, Naples Zool. Sta, 94–; lecturer, Army Med. Sch, 94–01; Med. Sch, Hopkins, 97–; Navy Med. Sch, 02–; agr. and science attaché, U. S. Embassy, Berlin, 98–99; sec'y, Int. Commission Zool. Nomenclature, 98– Hon. M.S, Wesleyan, 96. U. S. delegate, Int. Zool. Cong, Leyden, 95; Cambridge, 98; Berlin, 01; Bern, 04. F.A.A. (sec'y, F, 02, sec'y, Council, 03, gen. sec'y, 04); Soc. Zool; cor. mem. London Zool. Soc; for. cor. Soc. de Biol. de France; Acad. de Méd. de France. Zoology in its relation to public health.

Stiles, Dr. Percy G(oldthwait), 19 Proctor St, Newtonville, Mass. *Physiology.* Newtonville, July 1, 75. B.S, Mass. Inst. Tech, 97; Ph.D, Hopkins, 02. Asst. *physiol,* Mass. Inst. Tech, 97–99; Hopkins, 00–02; *instr,* Univ. and Bellevue Hosp. Med. Col, 02–03; *Mass. Inst. Tech, 03–, Simmons, 04–* Instr. physiol, Mass. Nor. Sch, Framingham, 98–99. Physiol. Soc; Soc. Exp. Biol. and Med. Physiology of involuntary muscle; tone; phlorhizin diabetes; ionic influences on tissues.

Stillman, Prof. J(ohn) M(axson), Stanford University, Cal. **Chemistry.* New York, N. Y, April 14, 52. Ph.B, California, 74; Strasburg and Würzburg, 75–76; Ph.D, California, 85. Instr. chem, California, 75–82; chemist, Boston Sugar Refining Co, 82–87; supt. and chemist, Am. Sugar Refining Co, 87–91; *prof. chem, Stanford, 91–* M.A.A; Chem. Soc. (mem. Council, Cal. Sect, 02, councilor-at-large, 04–); Chem. Gesell. Chemistry of certain vegetable substances; ammonia compounds of inorganic chlorids; molecular lowering of the freezing-point of diphenylamin and napthylamin.—Certain factors influencing the precipitation of Ca and Mg in water purification.

Stillman, Dr. Tho(ma)s B(liss), 532 River St, Hoboken, N. J. **Engineering chemistry.* Plainfield, N. J, May 24, 52. Alfred, 69; B.S, Rutgers, 73; Fresenius' Lab, Wiesbaden, 76–77. With N. J. Geol. Surv, 73; instr. chem, *Stevens,* 81–86, *prof. anal. chem, 86–* Hon. Ph.D, Stevens, 83. Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Int. Ass. Testing Materials; cor. mem. Edinburgh Soc. Arts and Sci; Chem. Gesell; Soc. chim. de Paris. Lubricating oils; waters; gas; separation of the rare earths; cements; asphalts; alloys.—Various forms of carbon in steels and irons.

Stillman, Dr. W(illiam) O(lin), 287 State St, Albany, N. Y. *Medicine, Surgery.* Normansville, N. Y, Sept. 9, 56. M.D, Albany Med. Col, 78; A.M, Union, 80; Paris, Berlin, Vienna and London, 83–84. Physician, Lathrop Mem. Hosp. for Incurables, 86; *lecturer hist. of med, Albany Med. Col, 97–* Physician to Mother House of Dominican monasteries for 20 years. Ass. Anat; Am. Humane Ass. (pres.); N. Y. State Med. Soc; Albany Co. Med. Soc. Medicine.—Uric acid diathesis.

Stine, Prof. W(ilbur) M(orris), Swarthmore, Pa. *Mathematical physics, Engineering.* Tyrone, Pa, Nov. 3, 63. Ph.B, Dickinson, 86, M.S, 89, Sc.D, 93; Ph.D, Ohio (Athens), 93. Asst. prof. physics and later prof. physics and elec. eng, Ohio (Athens), 86–93; director elec. eng, Armour Inst, 93–98; *prof. eng, Swarthmore, 98–* Ed, 'Elec. Engineering,' 94; mem. Jury Awards, Columbian Expos, 93; Nat. Export Expos, Phila, 99. F.A.A; Physical Soc; Elec. Eng. Alkaline and gas accumulators; arc and incandescent lamps; physics of fuses for electrical

currents; photometry; Röntgen rays; instruments of precision for electrical measurements. —Metallography; magnetism of iron.

Stockberger, W(arner) W, Bureau of Plant Industry, Washington, D. C. *Botany.* Croton, O, July 10, 72. B.S, Denison, 02. Supt. schools, Hanover, O, 95–97; asst. instr. science, Denison, 97–01, instr. bot, 01–03; *expert in histol, Bureau Plant Indust, U. S. Dept. Agr, 03–* Ohio Acad; Wash. Bot. Soc. Distribution of Aglae; relation of geological formation to plant distribution.—Life history of Sargassum; localization of alkaloids in plant cell; effect of toxic solutions on mitosis.

Stockbridge, Dr. H(orace) E(dward), Lake City, Fla. *Agriculture, Chemistry.* Hadley, Mass, May 19, 57. B.S, Mass. Agr. Col, 78; Ph.D, Göttingen, 84. Asst. chemist, U. S. Dept. Agr, 80; instr. chem, Mass. Agr. Col, 81, assoc. prof. chem. and geol, 84–85; prof, Imperial Col. of Agr, Sapporo, Japan, 85–89; chief chemist, Japanese Govt, 87–89; director, Ind. Exp. Sta, 89; pres, State Col, and director, N. Dak. Exp. Sta, 90–94; *director, Farmers' Institutes, Lake City, Fla, 97–* M.A.A; Chem. Soc; Acad. Polit. and Social Sci; Ind. Acad; Chem. Gesell; Japan Educ. Soc. Fertilizing of crops; feeding of animals; estimation of sugar in beets; lupulin of hops; clarification of cane juice.—Effect of cultivation on elaboration of characteristic constituents of certain wild plants.

Stocking, Prof. W(illiam) A(lonzo), Jr, Connecticut Agricultural College, Storrs, Conn. *Bacteriology.* Simsbury, Conn, May 13, 72. B.Agr, Conn. Agr. Col, 95; B.S.A, Cornell, 98, M.S.A, 04. Instr. agr, State Nor. Sch, Mansfield, Pa, 98–99; *Conn. Agr. Col,* 99–03, asst. prof. *agr. bacter,* 03–05, *prof, 05–* Expert dairy bacter, U. S. Dept. Agr, 05. Soc. Bact. Milk bacteria.—Bacterial content of the cow's udder; sources and nature of bacterial contamination of milk.

Stockton, Dr. Cha(rle)s G, 436 Franklin St, Buffalo, N. Y. **Medicine.* Madison, O, Aug. 27, 53. M.D, Buffalo, 78; Niagara, 84. *Prof.* mat. med, Niagara, 83; *principles and practise of med. and clin. med, Buffalo, 87–* Consulting physician, N. Y. State Hosp. for Crippled and Deformed Children. Am. Physicians; Am. Med. Ass; Wash. Acad; Buffalo Acad. Med. (pres.). Diseases of the abdominal organs.—Diseases of the stomach.

Stockwell, Prof. John N(elson), 1008 Case Ave, Cleveland, O. **Astronomy.* Northampton, Mass, April 10, 32. Pub. schools; private study. Prof. math. and astron, Case, 81–87; *private research, 87–* Hon. A.M, Western Reserve, 62, Ph.D, 76. F.A.A; Astron. and Astrophys. Soc; assoc. fel. Am. Acad; Cleveland Eng. Club. Mathematical astronomy and allied subjects; ancient chronology as determined by eclipses; celestial mechanics, or the general problem of planetary perturbation; properties of coefficients which are determined by diverging series; eclipse cycles; theory of the mutual perturbations of planets; theory of tides; strength of material forces and the nature and law of gravitation.—The Darwinian theory of the genesis of the moon; tidal evolution.

Stoddard, Prof. John T(appan), 57 Crescent St, Northampton, Mass. **Chemistry.* Northampton, Oct. 20, 52. A.B, Amherst, 74, grad. student, 75–76; Ph.D, Göttingen, 77. Asst. principal, High Sch, Northampton, 74–75; *prof.* physics and math, *Smith,* 78–81, chem. and physics, 81–97, *chem, 97–* Chem. Soc; Chem. Gesell. Inorganic chemistry; electrochemistry.

Stokes, Dr. Henry N(ewlin), Bureau of Standards, Washington, D. C. **Chemistry.* Moorestown, N. J, Oct. 24, 59. B.S, Haverford, 78; Ph.D, Hopkins, 84; Munich, 85–86; Polytech, Zürich, 86–89. Chemist, U. S. Geol. Surv, 89–92; asst. prof. inorg. chem, Chicago, 92–94; *chemist,* U. S. Geol. Surv, 94–03; *Bur. Standards, 03–* F.A.A. (sec'y, C, 93, 03); Chem. Soc. (mem. Committee Papers and Pub.); Min. Eng; Chem. Gesell; Soc. chim. de Paris. Inorganic chemistry; silicon compounds; phosphorus-nitrogen compounds.—Chemistry of ore deposition, especially sulphids.

Stoller, Prof. James H(ough), Union College, Schenectady, N. Y. *Biology.* Johnstown, N. Y, Dec. 11, 57. A.B, Union, 84, A.M, 87; Munich, 86–87; Ph.D, Leipzig, 98. Instr. nat. hist, *Union,* 84–89, adj. prof, 89–92, *prof. biol, 92–* Bacteriologist, N. Y. State Board of Health, 91–94. Soc. Nat. The bacteria of river waters; respiration in the land Isopoda; new species of land Isopoda.

Stone, Prof. George E(dward), Amherst, Mass. *Botany.* Leicester, Mass, Sept. 6, 60. Mass. Agr. Col, 83–84; Mass. Inst. Tech, 85–89; Leipzig, 91–93. *Prof. bot, Mass. Agr. Col, 93–; botanist, Hatch Exp. Sta, 94–* Botanist, Mass. State Board of Agr. F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; New Eng. Bot. Club; Mass. Hort. Soc; Mass. Forestry Ass; Boston Soc. Nat. Hist; Worcester Nat. Hist. Soc; Worcester Hort. Soc. Plant pathology and physiology.

Stone, Prof. George H(apgood), 423 E. Platte Ave, Colorado Springs, Colo. *Geology.* Collamer, N. Y, Nov. 22, 41. A.B, Wesleyan, 68, A.M, 71. Prof. math, Genesee Wesleyan Sem, Lima, N. Y, 69–72; nat. science, Maine Wesleyan Sem, Kent's Hill, Me, 74–81; geol, Colo. Col, 81–88; asst. geologist, U. S. Geol. Surv, 84–98; *mining expert, 88–* Glacial and mining geology.—The moral and international relations of money.

Stone, Dr. Isabelle, Vassar College, Poughkeepsie, N. Y. *Physics.* Chicago, Oct. 18, 68. A.B, Wellesley, 90; M.S, Chicago, 96, Ph.D, 97. Teacher, Bryn Mawr Prep. Sch, Baltimore, 97–98; *instr. physics, Vassar, 98–* Reader in physics, Col. Entrance Exam. Board, June, 01. M.A.A; Physical Soc. Electrical resistance of thin films; color in platinum films.—Properties of thin films when deposited in a vacuum.

Stone, Prof. Ormond, Leander McCormick Observatory, Charlottesville, Va. **Astronomy.* Pekin, Ills, Jan. 11, 47. Chicago, 66–70, A.M, 75. Tutor, Racine, 67–68; asst, U. S. Naval Observatory, 70–75; *director,* Cincinnati Observatory, 75–82; *Leander McCormick Observatory, and prof. practical astron, Virginia, 82–* Founder and ed, 'Annals of Math,' 84– F.A.A. (v. pres, 88); Astron. and Astrophys. Soc; Math. Soc; Wash. Acad; Wis. Acad; Cincinnati Soc. Nat. Hist; Astron. Gesell. Astronomy.—Observations of double stars, nebulae and satellites; celestial mechanics.

Stone, R(alph) W(alter), U. S. Geological Survey, Washington, D. C. *Geology.* Camden, N. Y, Nov. 17, 76. Ph.B, Hamilton, 99; A.B, Harvard, 00, A.M, 01. Asst. geol, Harvard, 00–01; *asst. geologist, U. S. Geol. Surv, 01–* Instr. geog, Summer Sch. for Cuban Teachers, Harvard, 00. Wash. Geol. Soc. Stratigraphy in western Pennsylvania; bituminous coal; gas and oil; Waynesburg and Eldersridge (Pa.) quadrangles.—Coal resources of southwestern Alaska.

Stone, Pres. Winthrop Ellsworth, West Lafayette, Ind. *Chemistry.* Chesterfield, N. H, June 12, 62. B.S, Mass. Agr. Col, 82; B.S, Boston, 86; Ph.D, Göttingen, 88. Asst, Mass. Agr. Exp. Sta, 84–86; chemist, Tenn. Agr. Exp. Sta, 88–89; prof. chem, *Purdue,* 89–92, v. pres, 92–00, *pres, 00–* Chem. Soc; fel. Ind. Acad. Carbohydrates.

Stone, Witmer, Academy of Natural Sciences, Philadelphia, Pa. **Zoology, Ornithology.* Philadelphia, Sept. 22, 66. A.B, Pennsylvania, 87, A.M, 91. *Asst. curator, Mus, and conservator, Ornith. Sect, Acad. Nat. Sciences, Phila, 91–* Lecturer nat. hist, Germantown Acad, 89–90; Ludwick Inst. Courses, Phila. Fel. Ornith. Union; Phila. Acad; Del. Valley Ornith. Club (pres, 91–92). Systematic ornithology and mammalogy; the molt of birds.

Stoneking, J(ohn) A(ndrew), 902 E. Third St, Bloomington, Ind. *Experimental physics.* Delaware, Ind, March 13, 63. A.B, Indiana, 98, A.M, 01. Teacher, pub. and high schools, 83–95; *instr. physics, Indiana, 97–* Ind. Acad. Fluorescence and phosphorescence.—Color photography.

Stookey, Prof. Lyman Brumbaugh, University of Southern California, Los Angeles, Cal. *Physiology, Physiological chemistry.* Belleville, Ills, July 30, 78. A.B, Yale, 00, Ph.D, 02; Strasburg, 04–05. Asst. *physiol. and physiol. chem,* N. Y. State Path. Inst, 02–05; *prof, Med. Dept, Southern California, 05–* M.A.A; Physiol. Soc; Chem. Soc; Soc. Exp. Biol. and Med; N. Y. Soc. Physiol. Chemists. Formation of glycogen; gastric secretion of hydrochloric acid; digestion of gelatin; biological relation of proteids and proteid assimilation; digestion and self-digestion of tissues and tissue extracts; autolysis of brain tissue; output of ammonia in course of different forms of insanity; proteolytic enzymes; etc.—Intracellular enzymes and antienzymes; nucleoproteids.

Storer, Prof. F(rancis) H(umphreys), 476 Boylston St, Boston, Mass. **Agricultural chemistry.* Boston, March 27, 32. B.S, Harvard, 55; Heidelberg, Freiburg, Tharand and Paris. Chemist, U. S. North Pacific Explor. Exped, 53–54; anal. and consulting chemist, Boston, 57–65; *prof.* gen. indust. chem, Mass. Inst. Tech, 65–70; *agr. chem, Harvard, 70–, dean, Bussey Inst, 71–* Am. correspondent, Barreswil's 'Repertoire de Chimie Appliquée,' 58–63. Hon. A.M, Harvard, 70. Fel. Am. Acad. Alloys and impurities of zinc; coal oils and petroleums; experiments with fertilizers; chemical composition of foods, fodders, etc.—Chemical composition of the wood of tree trunks.

Storer, Dr. H(oratio) R(obinson), 58 Washington St, Newport, R. I. *Medicine, Surgery.* Boston, Mass, Feb. 27, 30. A.B, Harvard, 50, A.M, M.D, 53; Paris, London and Edinburgh, 53–55; LL.B, Harvard, 68. Prof. obstet. and med. juris, Berkshire Med. Col, 65–69; *practising physician, 55–; lecturer and writer on med. surg. and sanitary subjects, 77–* Physician, Boston Lying-in Hosp; surgeon, St. Elizabeth Hosp. and N. E. Hosp. for Women and Children; consulting surgeon, Carney Hosp, Boston; Newport Hosp; St. Joseph's Hosp, Providence. Gold medal, Am. Med. Ass, 65. Am. Med. Ass. (sec'y, 65, v. pres, 68); fel. Am. Acad; R. I, Mass. and Cal. Med. Societies; Boston Gynec. Soc. (hon. pres, ed, 'Jour.'); Kings Co. Med. Soc; Newport Med. Soc. (hon. pres.); Boston Soc. Nat. Hist; N. Y. Acad. Med; several Canadian and foreign med, obstet. and numis. societies. Gynecology; natural history; medical numismatics.—Medical numismatics.

Storey, Dr. Thomas A(ndrew), Stanford University, Cal. *Physiology, Medicine.* Burden, Kas, Jan. 29, 75. A.B, Stanford, 96; Hopkins Lab, Pacific Grove, Cal, summers, 97–98; A.M, Stanford, 99; Michigan, 00; Ph.D, Stanford, 02; Harvard Med. Sch, 02–03; Cooper Med. Sch, 03–04; M.D, Harvard, 05. Asst, Gym, *Stanford,* 96–97, instr. hygiene and org. training, 97–02, *asst. prof. hygiene, 02–* House officer, Long Island Hosp, Boston, 05. M.A.A; Physiol. Soc; Soc. Research Physical Educ. (mem. Exec. Committee, 03–05); Soc. Col. Gym. Directors (v. pres, 05–06). Daily variations in the power of voluntary muscular contraction; influence of fatigue on the speed of the contraction of human voluntary muscle; exercise upon irritability of human muscle; tonus rhythms in normal human muscle and in gastrocnemus of the cat.—Vicarious education; effect of cerebral injury on the functional activity of the vasomotor centers.

Story, Prof. W(illia)m E(dward), 17 Hammond St, Worcester, Mass. **Mathematics.* Boston, Mass, April 29, 50. A.B, Harvard, 71, Parker fellow, 74–75; Ph.D, Leipzig, 75. Tutor *math,* Harvard, 75–76; assoc, later asst. prof. and assoc. prof, Hopkins, 76–89; *prof, Clark, 89–* F.A.A. (v. pres, 96); Math. Soc; Am. Acad;

London Math. Soc. Theory of errors.—Algebraic invariants; finite differences; algebraic curves and surfaces; hyperspace and non-Euclidean geometry.

Stose, George W(illis), 801 Quincy St, Washington, D. C. *Geology.* Chicago, Ills, Oct. 5, 69. B.S, Mass. Inst. Tech, 93, grad. student, 94. Asst. geologist, *U. S. Geol. Surv*, 94–00, *geologist and ed. geologic maps, 00–* M.A.A; Wash. Geol. Soc. Structure and stratigraphy.—Geology of central southern Pennsylvania and eastern West Virginia.

Stoughton, Prof. Bradley, Columbia University, New York, N. Y. *Metallurgy.* New York, Dec. 6, 73. Ph.B, Sheffield Sci. Sch, Yale, 93; B.S, Mass. Inst. Tech, 96. Asst. mining and metal, Mass. Inst. Tech, 96; private asst. to Prof. H. M. Howe, 97; metallurgist, supt. and manager of various steel mfg. companies, 98–01; instr. *metal, Columbia*, 02–03, *adj. prof, 03–* Min. Eng; Soc. Testing Materials; Nat. Geog. Soc; Int. Ass. Testing Materials; Gt. Britain Iron and Steel Inst. Chemistry of the Bessemer steel process; heat treatment of steel and nickel.—Heat treatment and welding of steel; manufacture of centrifugal castings.

Stowell, Dr. T(homas) B(lanchard), 6 Le Roy St, Potsdam, N. Y. *Neurology.* Perry, N. Y, March 29, 46. A.B, Genesee, 65, A.M, 68; Ph.D, Syracuse, 81. Principal, Acad, Addison, N. Y, 65; Morrisville, N. Y, 66; teacher math, Genesee Wesleyan Sem, 67; principal, Morris High Sch, Leavenworth, Kas, 68; prof. nat. science, State Nor. Sch, Cortland, N. Y, 68–89; *principal, State Nor. Sch, Potsdam, N. Y, 89–* F.A.A; Ass. Anat; Am. Med. Ass; Nat. Educ. Ass. Nervous system of domestic cat.

Stradling, Dr. George F(lowers), Northeast Manual Training School, Philadelphia, Pa. *Physics.* Hatboro, Pa, Nov. 13, 67. A.B, Pennsylvania, 87; fellow by courtesy, Hopkins, 88; Strasburg, 89; Polytech, Zürich, 94; Ph.D, Pennsylvania, 95. Instr. *physics*, Pennsylvania, 90; *prof, Northeast Manual Training Sch, Phila, 91–; Wagner Free Inst, 99–* F.A.A; Franklin Inst. (pres, Physical Sect, 01). Elasticity; effect of percussion on magnetism.

Stratton, Prof. G(eorge) M(alcolm), Johns Hopkins University, Baltimore, Md. **Psychology.* Oakland, Cal, Sept. 26, 65. A.B, California, 88; A.M, Yale, 90; fellow, California, 91–92; Ph.D, Leipzig, 96. Instr. philos, California, 92–94, psychol, 96–97, asst. prof, 97–99, assoc. prof. and director, Psychol. Lab, 99–04; *prof. exp. psychol. and director, Psychol. Lab, Hopkins, 04–* Principal, High Sch, Ventura, Cal, 90; lecturer exp. psychol, Philos. Union, California, 99–00. Psychol. Ass. (mem. Council). Perception of change; visual space; eye movements and esthetics.—Visual space; perception of change.

Stratton, Prof. Samuel W(esley), The Farragut, 17th and I Sts, Washington, D. C. **Physics.* Litchfield, Ills, July 18, 61. B.S, Illinois, 84. Instr. math. and physics, Illinois, 86–89, asst. prof. physics, 89, prof. physics and elec. eng, 89–92; asst. prof. physics, Chicago, 92–95, assoc. prof, 95–98, prof, 98–01; *director, Bur. Standards, 01–* Mem. Int. Committee on Weights and Measures, 05. Hon. Eng.D, Illinois, 03; Sc.D, Western Univ. of Pa, 03. U. S. delegate, Int. Elec. Cong, St. Louis, 04. M.A.A; Physical Soc; Astron. and Astrophys. Soc; Elec. Eng; Philos. Soc; Wash. Philos. Soc. Physics.

Streeter, Dr. George L(inius), Johns Hopkins University, Baltimore, Md. *Anatomy.* Johnstown, N. Y, Jan. 12, 73. A.B, Union, 95; M.D, A.M, Columbia, 99; Berlin and Leipzig, 02–03. Interne, Roosevelt Hosp, N. Y, 99–00; demonstrator anat. of the nervous system, Albany Med Col, 01–02; asst. *anat, Hopkins*, 04, *instr, 05–* Ass. Anat. Neurology.

Stringham, Prof. (Washington) Irving, 2250 Prospect Ave, Berkeley, Cal. **Mathematics.* Yorkshire, N. Y, Dec. 10, 47. Washburn, 66–72; A.B, Harvard, 77; fellow, Hopkins, 78–80, Ph.D, 80; Parker fellow, Harvard (Leipzig), 80–82. *Prof. math, California, 82–* Asst, 'Am. Jour. Math,' 78–79; substitute teacher math, Victoria Col, Isl. of Jersey, 82; delegate, Am. Ass. of Universities, 01, 02, 03, 05. Official delegate, Int. Cong. Math, Paris, 00. M.A.A; Math. Soc. (chairman, San Francisco Sect, 92, 93); Pacific Astron. Soc. Geometry of four dimensional space; non-Euclidean geometry; quaternions; elliptic functions; orthogonal transformations.—Absolute geometry.

Strobell, Miss Ella C(hurch), 80 Madison Ave, New York, N. Y. *Zoology.* New York, June 26, 62. Private schools and tutors. Soc. Zool. Cytology.

Stromquist, Dr. Carl Eben, 27 Madison St, Princeton, N. J. *Mathematics.* Fremont, Kas, Nov. 6, 77. B.S, Bethany (Kas.), 99; Ph.D, Yale, 03. *Instr. math, Princeton, 03–* Math. Soc. Calculus of variations.—Those geometries in which circles are the shortest distances.

Strong, Prof. C(harles) A(ugustus), Lakewood, N. J. **Psychology, Philosophy.* Haverhill, Mass, Nov. 28, 62. A.B, Rochester, 84; A.B, Harvard, 85, fellow (Berlin), 85–86; Paris, Berlin and Freiburg, 89–90. Instr. philos, Cornell, 87–89; docent *psychol*, Clark, 90; assoc. prof, Chicago, 92–95; lecturer, *Columbia*, 95–02, *prof, 02–* Psychol. Ass; Philos. Ass; fel. N. Y. Acad; cor. mem. Inst. National Genevois. Relations between psychology and philosophy; relation of mind and body.

Strong, Dr. Oliver S(mith), 437 W. 59th St, New York, N. Y. **Zoology.* Red Bank, N. J, Dec. 30, 64. A.B, Princeton, 86, A.M, 88; fellow, Columbia, 91–92, Ph.D, 95. Asst, Lake Lab, Milwaukee, Wis, 90–91; biol, *Columbia*, 92–93, tutor comp. neur. and asst. nor. histol, *Col. Physicians and Surg*, 95–04, *instr. histol, 04–* Assoc. ed, 'Jour. Comp. Neur,' 96–04; 'Jour. Comp. Neur. and Psychol,' 04– F.A.A; Soc. Nat; Soc. Zool. Cranial nerves of vertebrates;

histology of the human central nervous system; neurohistological methods.—Cranial nerves of Squalus acanthias; a case of congenital unilateral atrophy of the cerebellum.

Strong, Dr. R(euben) M(yron), Department of Zoology, University of Chicago, Chicago, Ills. **Zoology.* North Greenfield, Wis, Oct. 8, 72. A.B, Oberlin, 97; A.M, Harvard, 99, Ph.D, 01. Instr. zool. and physics, Lake Forest Acad, 97–98; bot. and physiog, Univ. of Chicago Acad, 01–02; biol, Haverford, 02–03; Carnegie research asst, 03–04; *assoc. zool, Chicago, 04–* Instr. in research, Woods Hole, 02– M.A.A; Soc. Nat; Soc. Zool; mem. Ornith. Union. Color and structure of feathers; variation in birds; origin of pigment in epidermal structures.—Animal coloration; evolution; breeding experiments; pigment epithelium of retina.

Strong, Dr. Wendell M(elville), Glen Ridge, N. J. *Mathematics.* Indianapolis, Ind, Feb. 6, 71. A.B, Yale, 93; A.M, Cornell, 94; Ph.D, Yale, 98; LL.B, Univ. of N. Y, 03. Instr. math, Yale, 95–00; with Actuarial Dept, *Mutual Life Ins. Co. of N. Y,* 00–04, *asst. actuary, 04–* F.A.A. (sec'y, A, 00); Math. Soc; Actuarial Soc; London Math. Soc. Non-quaternion number systems; Mengenlehre.

Stroud, Dr. Bert B(renette), Ithaca, N. Y. *Neurology, Pathology, Physiology, Medicine.* Woodhull, N, Y, March 11, 65. B.S, Cornell, 91, Sc.D, 95, D.V.M, 03, Med. Col, 04– Lab. asst. and anat. preparator, Cornell, 93–95; instr. neur, vert. zool. and physiol, 95–03, acting head of dept, 00–01. Teacher pub. sch; instr. physiol. and physics, Cascadilla Sch, 94–95. Ass. Anat. Comparative anatomy and development of the cerebellum; methods for preparing material; anatomy of the anus.—Comparative anatomy and physiology of the cerebellum; comparative pathology; treatment of infectious diseases of the alimentary canal; necropsy of a frog that lived for five years after removal of its cerebrum.

Stuart, Dr. H(enry) W(aldgrave), Lake Forest, Ills. *Philosophy.* Oakland, Cal, Dec. 1, 70. Ph.B, California, 93; fellow, Chicago, 94–96, 99–00, Ph.D, 00. Instr. (pro tem) econ. and psychol, Washington (St. Louis), 96–97; lecturer hist, Ripon, 00–01; instr. *philos,* Iowa, 01–04; prof. (pro tem.), *Lake Forest,* 04–05, *acting prof, 05–* Psychol. Ass; West Philos. Ass. Economic and ethical valuation.—Logical and ethical theory.

Stuart, Prof. William, 8 Wilson St, Burlington, Vt. *Horticulture.* St. Remi, Que, May 21, 65. B.S, Vermont, 94; M.S, Purdue, 96. Asst. botanist, Ind. Agr. Exp. Sta, 94–01, assoc. horticulturist, 01–02; *prof. hort, Vermont, and horticulturist, Exp. Sta, 02–* M.A.A; Soc. Hort. Sci; Breeders' Ass; Vt. State Hort. Soc. (sec'y, 04–). Corn smut; spore resistance of oats and wheat smut to hot water and formalin; chemical fertilizers on roses, tomatoes, lettuce and cucumbers; effect of etherization on winter forcing of rhubarb.—Variety resistance of potatoes to Phytophthora, rot and potato scab; potato breeding experiments.

Stull, Dr. W(ilfred) N(ewsome), San Martin, Cal. *Physical chemistry.* South English, Ia, Dec. 1, 77. B.S, Iowa, 98, M.S, 99; Austin fellow, Harvard, 02, Ph.D, 03. Instr. chem, Iowa (Grinnell), 99–01. Compressibility of liquids and solids; oxalic acid on the halogens; Faraday's law in molten solutions.—Compressibility of the elements and of organic compounds.

Sturgis, Dr. W(illia)m C(odman), Colorado Springs, Colo. **Botany, Vegetable pathology, Mycology.* Boston, Mass, Nov. 15, 62. A.B, Harvard, 84, A.M, 87, Ph.D, 89. Asst, Bot. Lab, Harvard, 90–91; mycologist, Conn. Agr. Exp. Sta, 92–01; *lecturer* diseases of forest trees, Yale, 01–02; *bot, Colo. Col, 04–* F.A.A; Boston Soc. Nat. Hist. Anatomy and sexuality of lichens; Myxomycetes; diseases of field crops and forest trees; soil bacteria.—Taxonomy of the Stemonitaceae; fungi of Colorado.

Sudler, Dr. Mervin T(ubman), University of Kansas, Lawrence, Kas. *Anatomy.* Westover, Md, Aug. 9, 75. B.S, Md. Agr. Col, 94, M.S, 01; Ph.D, Hopkins, 99; M.D, Col. Physicians and Surg, Baltimore, 01. Instr. *anat,* Med. Sch, Hopkins, 99–02; Med. Col, Cornell, 02–05; *asst. prof, Kansas, 05–* Ass. Anat; Soc. Zool; Md. Med. and Chirurg. Faculty. Anatomy of gallbladder; embryology of Penilia schmacheri; development of human pharynx.—Development of the nose; histogenesis of the liver.

Sullivan, Dr. E(ugene) C(ornelius), U. S. Geological Survey, Washington, D. C. *Chemistry.* Elgin, Ills, Jan. 23, 72. Michigan, 90–94; Göttingen, 96; Ph.D, Leipzig, 99. Instr. anal. chem, Michigan, 99–03; *chemist, U. S. Geol. Surv, 03–* Chem. Soc. Iodin compounds; influence of one substance in solution on the solubility of another.

Sullivan, Dr. M(ichael) X(avier), Brown University, Providence, R. I. *Physiology.* Fall River, Mass, Oct. 25, 75. A.B, Harvard, 99; A.M, Brown, 02, Ph.D, 03. Asst. chem, Harvard, 99–00; private tutor, Providence, R. I, 00–03; *instr. physiol, Brown, 03–* Chem. Soc. Synthetic culture media for bacteria; the biochemistry of bacterial pigments.—The physiology of the digestive tract of some selachians.

Summers, Prof. H(enry) E(lijah), Ames, Ia. *Zoology.* Rochester, N. Y, Aug. 18, 63. B.S, Cornell, 86, fellow, 86–88. Assoc. prof. biol, Tennessee, 88–91; asst, Ills. State Lab. Nat. Hist, 92–93; asst. and assoc. prof. physiol, Illinois, 93–97; *prof. zool, Iowa State, 98–; state entomologist, Ia, 98–* M.A.A; Ass. Econ. Entom. (sec'y, 04, 05); Micros. Soc; Wash. Entom. Soc; Iowa Acad. (pres, 02). Heteroptera; economic entomology.—Variability of Heteroptera.

Sumner, Dr. Francis B(ertody), 2412 Seventh Ave, New York, N. Y. *Zoology.* Pomfret, Conn, Aug. 1, 74. Fellow, B. S, Minnesota, 94; University table, Naples Zool. Sta, 98, 99;

Ph.D, Columbia, 01. *Instr. nat. hist, Col. City of N. Y, 99–* With Minn. Nat. Hist. Surv, 92–93; director, Biol. Lab, U. S. Bur. Fisheries, Woods Hole, 03– M.A.A; Fisheries Soc; fel. N. Y. Acad. Vertebrate embryology, particularly of bony fishes; physiology of bony fishes. —Adaptation and selective elimination in fishes; biological survey of the waters in the neighborhood of Woods Hole, Mass.

Sumner, Prof. W(illiam) G(raham), 240 Edwards St, New Haven, Conn. *Political and social science.* Paterson, N. J, Oct. 30, 40. A.B, Yale, 63; Geneva, 63–64; Gottingen, 64–66; Oxford, 66. Tutor, *Yale, 66–69, prof. polit. and social science, 72–* LL.D, E. Tennessee, 88. Systematic science of society.

Surface, Prof. H(arvey) A(dam), Harrisburg, Pa. *Zoology.* Waynesville, O, July 25, 67. B.S, Ohio State, 91, M.S, 92; Illinois, 93; fellow, Cornell, 97–98. Teacher, pub. schools, 85–87; asst, Ohio Geol. Surv, 91–92; geol, Ohio State, 92–93; prof. nat. hist, Pacific, 95–96; teacher zool, Cornell, 98; scientific asst, U. S. Fish Commission, 99; supervisor of nature study, Ithaca, N. Y, 99–00; *prof. zool, Pa. State, 00–; state zoologist, Pa, 03–* Zoologist, Pacific Chautauquan, 96; instr. ornith, N. Y. Teachers' Institutes, 98; field naturalist, Ills. State Biol. Sta, 99; special scientific asst, Pa. State Fish Commission, 00–; lecturer, Farmers' Inst, Pa, 01–; ornithologist, Pa. State Board of Agr, 01– M.A.A; Soc. Nat; assoc. Ornith. Union; Ass. Econ. Entom; Audubon Soc; Pa. Bee Keepers' Ass. (pres, 03–); Ohio Acad; N. Y. State Sci. Teachers Ass; hon. mem. Montreal Entom. Soc. Economic entomology; ichthyology; ornithology.—Economic zoology in Pennsylvania; the Hessian fly; fresh-water fishes; lampreys; reptiles.

Sutton, William J(ohn), 89 Discovery St, Victoria, B. C, Can. *Geology.* Kincardine, Ont, Jan. 19, 59. Cornell; Columbia; B.S, M.E, Michigan. Provincial assayer, Govt. of B. C, 87, 88; instr. geol, Michigan, 95–99; *geologist, Esquimalt and Nanaimo R. R. Co, 99–* M.A.A; Geol. Soc; Min. Eng; Can. Min. Inst; B. C. Nat. Hist. Soc; Soc. miner. de France. Geology of British Columbia.—Geology of Vancouver Island.

Swain, Prof. George F(illmore), Massachusetts Institute of Technology, Boston, Mass. *Civil engineering.* San Francisco, Cal, March 2, 57. B.S, Mass. Inst. Tech, 77; Berlin, 77–80. Instr. *civil eng, Mass. Inst. Tech,* 81–83, asst. prof, 83–86, assoc. prof, 86–87, *prof, 87–* Engineer, Mass. R. R. Commission, 87–; mem. Boston Transit Commission, 93– Civil Eng. (director, 01–04); Mech. Eng; Eng. Educ. (pres, 94–95); Boston Soc. Civil Eng. (pres, 96–97); British Inst. Civil Eng; Hanover Arch. und Ing. Verein; etc. Structural, railroad and hydraulic engineering.

Swain, Prof. Rob(er)t E(ckles), Stanford University, Cal. *Physiological chemistry.* Hollister, Cal, Jan. 5, 75. A.B, Stanford, 99; M.S, Yale, 01; Strasburg and Heidelberg, 01–02; Ph.D, Yale, 04. Asst. *chem, Stanford,* 98–00, instr, 00–02, *asst. prof, 02–* Acting chemist, Ohlandt Fertilizer Co, 99. Chem. Soc. Relation of molecular weight to lowering of freezing-point; products of uric acid feeding in dogs; products of tryptic digestion; urine of the coyote; formation of kynurenic acid in the animal body.—Physiological action of thallium salts.

Swan, Prof. J(ohn) N(esbit), 427 N. Third St, Monmouth, Ills. *Chemistry.* New Jefferson, O, Oct. 14, 62. A.B, Westminster (Pa.), 86; Ph.D, Hopkins, 93. Teacher, pub. schools, Burlington, Ia, 86–87; *prof.* science, Tarkio, 87–88; chem. and math, Westminster (Pa.), 89–91; *physical science, Monmouth, 93–,* acting pres, 02–03. Chem. Soc. Double halides.—Rate reactions with a aluminum and acids.

Swanton, Dr. John R(eed), Bureau of American Ethnology, Washington, D. C. *Anthropology.* Gardiner, Me, Feb. 19, 73. A.B, Harvard, 96, A.M, 97, Ph.D, 00. *Ethnologist, Bur. Am. Ethnol, 00–* Anthrop. Ass; Wash. Anthrop. Soc. Chinook, Dakota and Haida Indian languages; general ethnology of the Haida.—The Haida language and mythology; dictionary of Indian languages (section on northwest coast).

Swartz, Dr. Charles K(ephart), Johns Hopkins University, Baltimore, Md. *Geology.* Baltimore, Jan. 3, 61. A.B, Hopkins, 88; fellow, Clark, 89–90; B.D, Oberlin, 92; fellow, Hopkins, 03–04, Ph.D, 04. Instr. *geol, Hopkins,* 04–05, *assoc, 05–* Paleontology; Paleozoic geology.—Devonian limestones of Ohio.

Swartzel, Prof. K(arl) D(ale), Ohio State University, Columbus, O. *Mathematics.* Lewisburg, O, July 1, 69. B.S, Ohio State, 93, M.S, 94, fellow, 94–95; Harvard, 02–03. Instr. *math, Ohio State,* 95–99, *asst. prof, 99–* Special instr. math, Kenyon, 98–00; instr, summer schools, Ohio State. M.A.A; Math. Soc.

Swasey, Dr. Ambrose, 1728 Euclid Ave, Cleveland, O. *Mechanical engineering.* Exeter, N. H, Dec. 19, 46. Pub. schools. Mem. firm, Warner and Swasey, *Cleveland,* 80–00, *v. pres. and treas, Warner and Swasey Co, 00–* Mem. Jury of Awards, Nashville, Pan-Am. and La. Purchase Expositions; pres, Cleveland Chamber of Commerce. Chevalier Légion d'honneur, 00; hon. D.Eng, Case, 05. Mech. Eng. (v. pres, 01–02, pres, 04); Cleveland Civil Eng. Club (pres, 94–95); British Inst. Mech. Eng; fel. Royal Astron. Soc; British Astron. Ass. Design of the Lick and Yerkes telescopes; the circular dividing engine; the Swasey Depression Range Finder and other scientific instruments.

Sweet, Prof. John E(dson), 114 Merriman Ave, Syracuse, N. Y. *Architecture, Mechanics.* Pompey, N. Y, Oct. 21, 32. Pub. schools. Prof. practical mech, Cornell, 73–79; *pres, Straight Line Engine Co, 80–* Director in various mfg. industries; mem. Jury of Awards, Columbian Expos, 93; expert, Navy Dept. Mech. Eng. (pres, 83–84); Min. Eng; Eng. Builders Ass. (pres.). Machine construction.

Sweetser, Prof. Albert R(addin), Eugene, Ore. *Biology.* Mendon, Mass, July 15, 61. A.B, Wesleyan, 84; Mass. Inst. Tech, 84–85; A.M, Wesleyan, 87; Harvard, 93–97. Teacher science, Bucksport Acad, and Tilton Sem, 85–93; asst, Crypt. Lab, Harvard, and asst. instr. bot, Radcliffe, 95–97; *prof. biol,* Pacific, 97–02; *Oregon, 02–* Pub. Health Ass; Ore. Acad. (v. pres.). Water and water supplies for drinking purposes.—Bacterial flora of local waters.

Swenson, Prof. B(ernard) V(ictor), Madison, Wis. *Electrical engineering.* Chicago, Ills, May 3, 72. B.S, Illinois, 93, M.E, 01; E.E, Wisconsin, 01. Instr. physics and elec. eng, Illinois, 93–95, *asst. prof. elec. eng,* 95–98; *Wisconsin, 98–* In charge, Dept. Elec, Summer Sch, Wisconsin, 01–03; asst. supt. elec. ry. tests, Elec. Ry. Test Commission, mem. Jury of Awards and expert in charge, Elec. Eng. Sect, La. Purchase Expos, 04. Elec. Eng; Mech. Eng. Dynamo electric machinery; photometry; illumination; electric railways.

Swezey, Prof. G(oodwin) D(eloss), University of Nebraska, Lincoln, Nebr. *Astronomy, Meteorology.* Rockford, Ills, Jan. 10, 51. A.B, Beloit, 73; Divinity Sch, Yale, 73–75; A.M, Beloit, 76; B.D, Andover Theol. Sem, 80; Wisconsin, 96. Prof. nat. sciences, Doane, 80–94; *meteorologist, U. S. Exp. Sta, Lincoln, 94–; prof. astron. and meteorol, Nebraska, 96–* Director, Nebr. Weather Service, 84–96; meteorologist, Nebr. State Board of Agr, 91– M.A.A; Astron. and Astrophys. Soc; Nebr. Acad. (pres, 99). The climate of Nebraska.

Swift, Prof. Edgar James, Washington University, St. Louis, Mo. *Psychology, Pedagogy.* Ravenna, O. A.B, Amherst, 86; Ph.D, Clark, 03. Teacher science, Lake Forest Acad, 88–89; *prof.* psychol, State Nor. Sch, Stevens Point, Wis, 96–01; *psychol. and pedag, Washington (St. Louis), 03–* Psychol. Ass; West. Philos. Ass; S. Soc. Philos. and Psychol. Heredity and environment; psychology and physiology of learning; eye defects in school children; psychology of learning.—Comparative psychology; the learning process in language; neuroses of childhood.

Swift, Dr. Lewis, Marathon, N. Y. *Astronomy.* Clarkson, N. Y, Feb. 29, 20. Clarkson Acad. Director, Warner Observatory, Rochester, N. Y, 86–94; Lowe Observatory, Echo Mt, Cal, 94–00. Three gold medals from Emperor of Austria; Laland prize, Paris Acad; Mrs. Hannah Jackson Guilt bronze medal, 97; four bronze medals from Pacific Astron. Soc, and other prizes; hon. Ph.D, Rochester. Pacific Astron. Soc; fel. Royal Astron. Soc; British Astron. Ass. Comets (discovered 20); nebulae (discovered 1240); shooting stars; solar eclipses.

Swingle, Walter T(ennyson), U. S. Department of Agriculture, Washington, D. C. **Botany.* Canaan, Pa, Jan. 8, 71. B.S, Kas. State Agr. Col, 90, M.S, 96. Asst. botanist, Kas. State Agr. Exp. Sta, 88; special agent, Div. Veg. Physiol. and Path, *U. S. Dept. Agr,* 91, agr. explorer, 98–02, *in charge plant life hist. investigations, 02–* F.A.A; Soc. Plant Morph. and Physiol; Nat. Geog. Soc.

Sy, Prof. Albert P(hilip), Buffalo, N. Y. *Chemistry.* Altamont, Ills, Aug. 7, 72. B.S, Illinois, 94, M.S, 99. Asst. to city chemist, Buffalo, N. Y, 95–98; instr. chem, Buffalo, 95–98; Illinois, 98–99; asst. prof, Buffalo, 99–00; asst. chemist, Frankford Arsenal, Ordnance Dept, U. S. A, 00–03, chemist, Sandy Hook, N. J, 03–04; *asst. prof. chem, Buffalo, 04–* Chem. Soc; Franklin Inst. Nitrocellulose and ordnance materials.—Stability of nitrocellulose and powders.

Symons, Prof. Thomas B(addeley), College Park, Md. *Entomology, Zoology.* Easton, Md, Sept. 2, 80. Cornell, summer, 01; B.S, Md. Agr. Col, 02, M.S, 04. Asst. state entomologist, Md, 02, assoc. state entomologist, 03; *prof. entom. and zool, Md. Agr. Col, and state entomologist, Md, 04–* M.A.A; Ass. Econ. Entom; Wash. Biol. Soc. Economic entomology; position of mouth parts of San Jose scale in plant tissue.

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Taber, Dr. Henry, 65 West St, Worcester, Mass. **Mathematics.* Staten Island, N. Y, June 10, 60. Ph.B, Yale, 82; Ph.D, Hopkins, 88. Asst. *math,* Hopkins, 88–89; docent, *Clark,* 89–92, asst. prof, 92–03, *prof, 03–* Math. Soc; fel. Am. Acad; London Math. Soc. Bilinear form; continuous groups; hypercomplex numbers.

Taff, Joseph A(lexander), U. S. Geological Survey, Washington, D. C. *Geology.* Ten Mile, Tenn, Nov. 20, 62. Arkansas, 86–88; fellow, Texas, 93–94, B.S, 94. Asst. geologist, Ark. Geol. Surv, 88–89; Tex. Geol. Surv, 89–94; *U. S. Geol. Surv,* 94–00, *geologist, 00–* Geol. Soc; Nat. Geog. Soc; Wash. Geol. Soc. Stratigraphic, structural and economic geology.—Geology of Ouachita, Arbuckle and Wichita Mountains in Arkansas, Indian Territory and Oklahoma; Indian Territory coal field.

Tainter, Charles S(umner), Care American Security and Trust Co, 1405 G St, Washington, D. C. **Mechanics, Physics.* Watertown, Mass, April 25, 54. Pub. sch. Mem. U. S. Transit of Venus Exped, 74. Gold medal, Paris Elec. Expos, 81; Officier de l'Instruction Pub, 89; John Scott medal, Franklin Inst, 00. F.A.A. Transmission of sounds to a distance by agency of light; recording and reproduction of sound; telephony.—The recording and reproduction of sound.

Talbot, Prof. A(rthur) N(ewell), 1011 California Ave, Urbana, Ills. *Municipal and sanitary engineering.* Cortland, Ills, Oct. 21, 57. B.S, Illinois, 81, C.E, 85. Asst. engineer, A.T. and S.F.R.R, 81–85; asst. prof. eng. and math, *Illinois,* 85–90, *prof. munic. and sanit. eng, 90–* Res. engineer, N.P.R.R, 86, engineer in charge,

87; engineer in charge sewer construction, Champaign and Urbana, 94–99; consulting engineer. M.A.A; Civil Eng; Eng. Educ; Am. Water Works Ass; Soc. Munic. Improv; Soc. Testing Materials; West. Soc. Eng; Ills. Soc. Eng. and Surv. Paving-brick tests; storm-water run-off.—Hydraulics.

Talbot, Prof. E(llen) B(liss), Mt. Holyoke College, South Hadley, Mass. *Philosophy.* Iowa City, Ia, Nov. 22, 67. A.B, Ohio State, 90; Ph.D, Cornell, 98. Instr, High Sch, Dresden, O, 90–91; Troy, O, 91–94; Emma Willard Sch, 98–00; *head, Dept. Philos, Mt. Holyoke, 00–* Philos. Ass; Psychol. Ass. Philosophy of Fichte.

Talbot, Prof. Eugene S(olomon), 198 Goethe St, Chicago, Ills. *Medicine.* Sharon, Mass, March 8, 47. D.D.S, Pa. Col. Dental Surg, 72; M.D, Rush Med. Col, 80. *Prof. stomatol, Woman's Med. Sch, Northwestern, 80–* LL.D, Kenyon, 02; M.S, Whitman, 03. Tenth Int. Med. Cong, Berlin, 90 (hon. pres. Dental Sect.); Pan-Am. Cong, Washington, 93 (hon. sec'y); Havana, 01 (hon. sec'y); Twelfth Int. Med. Cong, Moscow, 97 (hon. pres.). M.A.A; Am. Med. Ass. (sec'y, Sect. Stomatol.); fel. Am. Acad. Dental Sci; Chicago Acad. Med; Chicago Path. Soc; Chicago Med. Soc; Chicago Acad; hon. mem. Odontol. Gesell; hon. mem. Ass. Gen. Dentistes; hon. mem. Soc. Odontol. Españ; cor. mem. Dansk-Tandlaegeforening. Degeneracy, its signs, causes and results.—Degeneracy of the nervous system and nerve endings.

Talbot, Prof. Henry P(aul), 273 Otis St, West Newton, Mass. **Chemistry.* Boston, Mass, May 15, 64. B.S, Mass. Inst. Tech, 85; Ph.D, Leipzig, 90. Asst. *anal. chem, Mass. Inst. Tech,* 85–87, instr, 87–88, 90–92, asst. prof, 92–95, assoc. prof, 95–98, prof, 98–01, *prof. in charge dept, 01–* Lecturer, Wellesley, 92–94. F.A.A; Chem. Soc; Electrochem. Soc; Soc. Testing Materials; Eng. Educ; Nat. Educ. Ass; Am. Acad; Chem. Gesell. Organic and analytical chemistry.—Investigation of the accuracy of several analytical procedures.

Talbot, Prof. Marion, University of Chicago, Chicago, Ills. *Hygiene, Dietetics.* Thun, Switzerland, July 31, 58. A.B, Boston, 80, A.M, 82; B.S, Mass. Inst. Tech, 88. Instr. domestic science, Wellesley, 90–92; *dean of women, Chicago, 92–,* asst. prof. sanit. science, 92–95, assoc. prof, 95–04, *prof. household administration, 04–* LL.D, Cornell (Ia.), 04. M.A.A; Chem. Soc; Pub. Health Ass; Am. Hist. Ass; Ass. Col. Alumnae. Domestic hygiene; student diet.

Talbot, Dr. Mignon, South Hadley, Mass. *Paleontology.* Iowa City, Ia, Aug. 16, 69. A.B, Ohio State, 92; Ph.D, Yale, 04. Teacher, High Sch, Columbus, O, 96–02; *head, Dept. Geol, Mt. Holyoke, 04–* M.A.A. Helderbergian fauna of New York.

Tallmann, Prof. W(illiam) D(uane), 726 Third Ave, S, Bozeman, Mont. *Mathematics.* Sterling, Ark, Feb. 12, 75. B.S, Wisconsin, 96, fellow, 97–98, grad. student, 99–01. Teacher *math,* High Sch, Madison, Wis, 96–97; Eau Claire, Wis, 98–99; instr, Wisconsin, 99–01; *prof, Mont. Col. Agr. and Mech. Arts, 01–* M.A.A; Math. Soc. Duality in geometry; correspondences.—Reality of the bitangents to the quintic curve.

Talmage, Prof. James E(dward), 970 First St, Salt Lake City, Utah. *Geology.* Hungerford, England, Sept. 21, 62. Hopkins, 83–84; A.C, Lehigh, 91; Ph.D, Ills. Wesleyan, 96. Prof. chem. and geol, Brigham Young Acad, 84–88; pres, Latter-day Saints Col, Salt Lake City, 88–93; *Utah,* 94–97, *Deseret prof. geol, 97–* Delegate from Royal Soc. of Edinburgh to Int. Geol. Cong, St. Petersburg, 97. M.A.A; Geol. Soc; fel. London Geol. Soc; fel. Edinburgh Royal Soc; fel. Royal Micros. Soc; life assoc. Gt. Britain Philos. Soc; cor. mem. Royal Scottish Geog. Soc. Utah geology.—Pre-Cambrian exposures of the Wasatch Mountains.

Tanner, Prof. J(ohn) H(enry), Cornell Heights, Ithaca, N. Y. **Mathematics.* Fort Plain, N. Y, March 1, 61. B.S, Cornell, 91; Göttingen, 94–96, Ph.D, 01. Teacher *math,* Clinton Liberal Inst, Fort Plain, N. Y, 83–87; instr, *Cornell,* 91–94, asst. prof, 94–04, *prof, 04–* F.A.A; Math. Soc; Am. Geog. Soc; Ass. Teachers Math. of Middle States and Md.

Tarr, Prof. R(alph) S(tockman), Cornell University, Ithaca, N. Y. **Geology, Physical geography.* Gloucester, Mass, Jan. 15, 64. B.S, Harvard, 91. Asst, U. S. Fish Commission, 83–84; U. S. Geol. Surv, 87–88; Tex. Geol. Surv, 89; geol, Harvard, 90–91; asst. prof. *dynamic geol. and physical geog, Cornell,* 92–96, *prof, 97–* Asst, U. S. Geol. Surv, 91, 92, special field asst, 03–; assoc. ed, 'Bul. Am. Geog. Soc.' and 'Jour. Geog.' F.A.A; Geol. Soc; Geog. Ass; Nat. Geog. Soc; Nat. Educ. Ass; Arctic Club; N. Y. State Sci. Teachers Ass; Wash. Geol. Soc. Glacial geology; physiography.—Glacial geology and physiography of Finger Lake region, New York.

Tassin, Wirt, U. S. National Museum, Washington, D. C. **Chemistry, Mineralogy.* Ft. Whipple, Va, Aug. 11, 69. Harvard; Cornell. *Chemist and asst. curator in charge, Div. Miner, U. S. Nat. Mus, 93–* Chem. Soc; Geol. Soc; Wash. Chem. Soc.

Tatlock, John, 376 West End Ave, New York, N. Y. *Astronomy, Economics.* Williamstown, Mass, March 12, 60. A.B, Williams, 82, A.M, 85. Asst, Washburn Observatory, Wisconsin, 83; prof. astron, Beloit, 84; *asst. actuary, Mutual Life Ins. Co, 89–; pres, Washington Life Ins. Co, 04–* F.A.A; Astron. and Astrophys. Soc; Actuarial Soc; fel. N. Y. Acad; fel. Royal Astron. Soc.

Tatnall, Dr. Rob(er)t R(ichardson), 1103 Ayars Place, Evanston, Ills. *Physics.* Wilmington, Del, Feb. 4, 70. B.S, Haverford, 90, A.M, 91; Ph.D, Hopkins, 95. Instr. *physics,* Pennsylvania, 95–97; Acad, Northwestern, 99–00, *North-*

western, 01–05, *asst. prof*, *05–* Physical Soc. Solar spectrum; metallic spectra; radiation.

Taussig, Prof. F(rank) W(illiam), Cambridge, Mass. *Economics.* St. Louis, Mo, Dec. 28, 59. A.B, Harvard, 79, Ph.D, 83, LL.B, 86. Instr. *econ, Harvard*, 82–86, asst. prof, 86–90, *prof*, *90–* Ed, 'Quarterly Jour. Econ,' 96– Econ. Ass; Statist. Ass. Economics; economic history of the United States.

Tawney, Prof. G(uy) A(llan), 717 Chapin St, Beloit, Wis. *Psychology, Philosophy.* Lima, O, March 11, 70. Wabash, 88–91; A.B, Princeton, 93, A.M, 94; Ph.D, Leipzig, 96. Demonstrator psychol, Princeton, 96; *prof. mental sciences and philos, Beloit, 97–* Psychol. Ass; Philos. Ass; Nat. Educ. Ass; West. Philos. Ass; Wis. Acad. Tactual sensations and perception; self-consciousness.—Consistency and its nature.

Taylor, Prof. A(lonzo) E(nglebert), 2515 Octavia St, San Francisco, Cal. *Pathology.* Iowa, March 19, 70. Cornell (Ia.), 86–88; De Pauw, 88–90; Berlin, 90–91; M.D, Pennsylvania, 94. Asst. director, Pepper Lab, Pennsylvania, 96–98; *prof. path, California, 99–* F.A.A; Chem. Soc; Soc. Exp. Biol. and Med; Chem. Gesell. Chemical physiology and pathology.

Taylor, Dr. E(dward) W(yllys), 457 Marlboro St, Boston, Mass. *Neurology.* Montclair, N. J, May 7, 66. A.B, Harvard, 88, M.D, 91; Berlin and Freiburg, 91–93; A.M, Harvard, 99. Asst. path, Harvard Med. Sch, 93–96, *instr.* neuropath, 96, *neur, Harvard Dent. Sch, 98–, asst, Harvard Med. Sch, 04–* Asst. physician, Dept. Neur, Mass. Gen. Hosp, 93–; visiting neurologist, Long Isl. Hosp, Boston Harbor, 95–; neuropathologist, Infants' Hosp, Boston, 91–04; prof. neur, Vermont, 99–01; asst. ed, 'Boston Med. and Surg. Jour'; 'Jour. Nervous and Mental Diseases.' F.A.A; Ass. Path. and Bact; Neur. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. (sec'y, 97–01); Boston Soc. Med. Improv; Boston Soc. Psychiatry and Neur. Neurology; pathology.—Pathology of the nervous system.

Taylor, F(rank) B(ursley), 2905 Fairfield Ave, Fort Wayne, Ind. **Geology.* Fort Wayne, Ind, Nov. 23, 60. Harvard, 82–86. Asst, Mich. Geol. Surv, May, 00; *special asst, U. S. Geol. Surv, 00–* F.A.A; Geol. Soc; Ind. Acad; Mich. Acad; Ottawa Field Nat. Club. Glacial and postglacial geology of region of Great Lakes.—Glacial and surficial geology of the Housatonic and Taconic quadrangles; glaciation of southeastern Michigan and of the western peninsula of Ontario.

Taylor, Prof. James M(orford), Hamilton, N. Y. *Mathematics.* Holmdel, N. J, Sept. 15, 43. A.B, Colgate, 67, A.M, 69. Principal, Gram. Sch, and prof. math, Madison, 69–73; *prof. math, Colgate, 73–* LL.D, William Jewell, 91. F.A.A; Math. Soc.

Taylor, Prof. S(amuel) N(ewton), 2206 Perryville Ave, Allegheny, Pa. *Physics, Electrical engineering.* Ph.B, Wesleyan, 87, fellow, Clark, 93–96, Ph.D, 96; German universities, 02–03. Exp. electrician, Thomson-Houston Elec. Works, 87–91; teacher science, Me. Wesleyan Sem, 91–93; instr. physics, Purdue, 96–99; assoc. prof, Syracuse, 99–03; *prof. elec. eng, Western Univ. of Pa, 03–* In charge time service, Allegheny Observatory, 04– Elec. Eng; Ind. Acad. Absolute electromotive force of cadmium cells; mass and velocity of ions in cathode rays; potential phenomena in vacuum tubes; etc.

Taylor, Dr. T(homas) M(aynard), 211 N. Professor St, Oberlin, O. *Chemistry.* Kobe, Japan, May 25, 74. B.S, Oberlin, 97; fellow, Pennsylvania, 99–01, Ph.D, 01. Asst. chem, Oberlin, 96–97; *instr.* chem. and physics, Trade Sch, Williamson, Pa, 97–98; *chem, Oberlin, 01–* Chem. Soc. Atomic weight of tungsten; ammonium tungstates.—Constitution of corundum; electrochemistry.

Taylor, Prof. W(illiam) E(rastus), 722 Irving Ave, Syracuse, N. Y. *Mathematics.* Bucklin, Mo, March 18, 70. Ph.B, Syracuse, 93, A.M, 95, Ph.D, 02. Instr. physics and math, Chamberlain Inst, 95–96; math, *Syracuse*, 97–02, assoc. prof, 02–04, *prof. applied math, L. C. Smith Col. of Applied Sci, 04–* Math. Soc. The product of an alternant by a symmetric function.

Teeple, Dr. J(ohn) E(dgar), 164 Front St, New York, N. Y, or Easton, Pa. *Chemistry.* Kempton, Ills, Jan. 4, 74. B.S, Valparaiso, 93, A.B, 94; B.S, Cornell, 99, Ph.D, 03. Prof. chem. and math, Nor. Col, Fremont, Nebr, 94–98; asst. org. and physiol. chem, Cornell, 99–01, instr, 01–04; *director, Indust. Laboratories for Chem. Research and Anal, N. Y. City, and chief chemist, J. T. Baker Chem. Co, Easton, Pa, 04–* Chem. Soc; Soc. Chem. Indust; Chem. Gesell. Chemistry of bile pigments; electric preparation of organic compounds.—Utilization of manufacturing waste products.

Tennent, Dr. D(avid) H(ill), Bryn Mawr, Pa. *Zoology.* Janesville, Wis, May 28, 73. Olivet, 96–00; Hopkins, 00–01, fellow, 02–04, Ph.D, 04, Bruce fellow, 04. Instr, Woods Hole, 02–; acting prof. biol. and physics, Randolph-Macon, 03; lecturer *biol, Bryn Mawr*, 04–05, *assoc, 05–* Soc. Zool. Trematode parasite of the oyster; life history of Bucephalus cucullus.

Terry, Prof. N(athaniel) M(atson), U. S. Naval Academy, Annapolis, Md. *Physics.* Lyme, Conn, April 6, 44. A.B, Amherst, 67; Ph.D, Göttingen, 71. *Prof. physics, U. S. Naval Acad, 72–, head, Dept. Physics and Chem, 86–* Hon. A.M, Yale, 72. Naval Inst. (mem. Board of Control, 87–). Applications of electricity to naval service.

Terry, Dr. Robert J(ames), 1806 Locust St, St. Louis, Mo. *Anatomy.* St. Louis, Jan. 24, 71. Cornell, 90–92; M.D, Mo. Med. Col, 95; A.B, Washington (St. Louis), 01. Demonstrator *anat*, Mo. Med. Col, 96–99; asst. prof, *Med. Dept, Washington (St. Louis)*, 99–00, *prof, 00–*

Collaborator, 'Am. Jour. Anat.' Bronze medal, Edinburgh, 98. M.A.A; Ass. Anat; Mo. Audubon Soc; St. Louis Acad; St. Louis Biol. Club; St. Louis Med. Sci. Club. Section cutting of decalcified human bodies; dissecting room records for study of variations; preservation of material.—Cranium; structure and posture.

Tesla, Dr. Nikola, 55 W. 27th St, New York, N. Y. **Electrical engineering.* Smiljan, Austria, 57. Polytech, Gratz; Prague and Budapest. *Electrical engineer and inventor.* Hon. A.M, Yale; LL.D, Columbia. F.A.A; Elec. Eng; Philos. Soc. Electricity; electric oscillations.

Test, Prof. W(illiam) H(enry), 716 Brown St, Lafayette, Ind. *Chemistry.* Richmond, Ind, Feb. 1, 71. B.S, Purdue, 92, M.S, 93. Asst. *chem, Purdue,* 93–95, instr, 95–01, *asst. prof, 01–* Chem. Soc; Soc. Chem. Indust. Sugars; water; fuels.—Valuation of fuels.

Thacher, Dr. John S(eymour), 839 Madison Ave, New York, N. Y. *Pathology, Medicine.* New Haven, Conn, June 10, 56. A.B, Yale, 77; M.D, Columbia, 80. *Pathologist, Presbyterian Hosp, N. Y, 89–, attending physician, 03–*; demonstrator path, *Columbia,* 96–03, *prof. clin. med, 03–* Am. Physicians; N. Y. Path. Soc; N. Y. Acad. Med; N. Y. Co. Med. Soc; N. Y. Clin. Soc. Pathology; clinical medicine.

Thaler, Prof. J(oseph) A(uken), Bozeman, Mont. *Electrical engineering.* Koessen, Austria, Sept. 29, 63. E.E, Minnesota, 00. Instr. math, Minnesota, 00–01; asst. prof. mech. eng, Mont. Col. Agr. and Mech. Arts, 01–02; instr. mech, Purdue, 02–03; *prof. elec. eng, Mont. Col. Agr. and Mech. Arts, 03–* Elec. Eng; Eng. Educ; Nat. Elec. Light Ass; Nat. Educ. Ass; Mont. Eng. Soc. Effects of magnetism on the properties of iron and steel.

Thatcher, R(oscoe) W(ilfred), Pullman, Wash. *Agricultural chemistry.* Chatham Center, O, Oct. 5, 72. B.S, Nebraska, 98, A.M, 01. Instr. science, High Sch, Beatrice, Nebr, 99–00; asst. chemist, Nebr. Agr. Exp. Sta, 00–02; *chemist, Wash. Agr. Exp. Sta, 02–* Chem. Soc. A rapid method for the estimation of sugar in beets; the indirect weighing of quantitative precipitates; the enzymes of fruits; lime-sulphur compounds.—Wheat and flour investigations.

Thaxter, Prof. Roland, 7 Scott St, Cambridge, Mass. **Botany.* Newton, Mass, Aug, 28, 58. A.B, Harvard, 82, A.M, Ph.D, 88. Mycologist, Conn. Agr. Exp. Sta, 88–91, asst. prof. *crypt. bot, Harvard,* 91–01, *prof, 01–* F.A.A; Soc. Nat; Soc. Plant Morph. and Physiol; Mycol. Soc; Am. Acad; New Eng. Bot. Club; Boston Soc. Nat. Hist; Bot. Gesell. Thallophytes; fungi; fungous parasites of insects.—Laboulbeniaceae.

Thayer, Abbott H(anderson), Monadnock, N. H. *Painting.* Boston, Mass, Aug. 12, 49. Chauncey Hall Sch, Boston; Ecole des Beaux Arts, Paris, 75–79. *Artist, 79–* Soc. Am. Artists (pres. two years); Nat. Acad. Design; Insigne Reale Romana Delle Belle Arti Denominata Di San Luca. Protective coloration of the animal kingdom.

Thayer, Dr. W(illiam) S(ydney), 406 Cathedral St, Baltimore, Md. **Medicine.* Milton, Mass, June 23, 64. A.B, Harvard, 85, M.D, 89; Berlin and Vienna, 89–90. Res. physician, Hopkins Hosp, 91–98, assoc. med, *Hopkins,* 95, assoc. prof, 96–05, *prof. clin. med, 05–*, assoc, *Hopkins Hosp,* 99–05, *assoc. physician, 05–* Twelfth Int. Med. Cong, Moscow (hon. pres.). F.A.A; Am. Physicians; Ass. Path. and Bact; Am. Med. Ass; Md. Med. and Chirurg. Faculty; Wash. Acad; hon. mem. Moscow Therapeut. Soc. Parasites and etiology of malaria; the blood in different pathological conditions; the blood in typhoid fever.—Cardiac and vascular complications of typhoid fever; cardiac complications of chorea.

Thilly, Prof. Frank, Princeton, N. J. *Philosophy.* Cincinnati, O, Aug. 18, 65. A.B, Cincinnati, 87; Berlin, 87–89; Ph.D, Heidelberg, 91; fellow, Cornell, 91–92. Instr. *philos,* Cornell, 92–93; *prof,* Missouri, 93–04; *Princeton, 04–* Asst, 'Philos. Rev,' and managing ed, 'School Rev,' 92–93. Philos. Ass; Psychol. Ass; West. Philos. Ass. (pres, 00–02). History of philosophy; ethics; logic; metaphysics.

Thom, Dr. Charles, Storrs, Conn. *Botany.* Minonk, Ills, Nov. 11, 72. A.B, Lake Forest, 95, A.M, 97; Ph.D, Missouri, 99. Instr. biol, Missouri, 97–99, bot, 99–01, asst. prof, 01–02; asst, Cornell, 02–04; *cheese expert (mycologist), U. S. Dept. Agr, 04–* F.A.A. Fertilization of Aspidium; cell problems in some of the archegoniates; comparative morphology in some Hymenomycetes.—Relations of molds to cheese ripening.

Thomas, Prof. B(enjamin) F(ranklin), University Grounds, Columbus, O. **Physics.* Palmyra, O, Oct. 14, 50. B.S, Ripon, 74, M.S, 77; Ph.D, Stevens, 80. Instr. math. and physics, Carleton, 76–79; research asst, Stevens, 79–80; *prof. physics,* Missouri, 80–85; *Ohio State, 85–* Mem. Board of Exam, Int. Elec. Exhib, Phila, 84; Jury Awards, Dept. Elec, Columbian Expos, 93. F.A.A. (sec'y, B, 85, v. pres, 92); Physical Soc; Elec. Eng. Rapidly varying phenomena in electric circuits; photometric standards; photometry of arc and incandescent lights.—Photometric standards.

Thomas, Dr. Cyrus, Bureau of American Ethnology, Washington, D. C. **Ethnology, Entomology.* Kingsport, Tenn, July 27, 25. Acad. and pub. and private schools. Practised law till 65; county clerk, Jackson Co, Ills, 50–53; minister, Evang. Lutheran Church, 65–69; asst, U. S. Geol. and Geog. Surveys of Territories (Hayden), 69–73; prof. nat. science, S. Ills. Nor. Univ, 73–75; state entomologist, Ills, 74–75; mem. U. S. Entom. Commission, 77–79; *archeologist, Bur. Am. Ethnol, 82–* Hon. Ph.D, Gettysburg. Acrididae of North America; noxious and beneficial insects of Illinois; mounds; Maya inscriptions and codices; the Cherokees and Shawnees in prehistoric times; prehistoric

works east of the Rocky Mountains; numeral systems of Mexican and Central American tribes; the Mayan calendar systems; Indians of North America in historic times.

Thomas, Dr. Henry M, 1228 Madison Ave, Baltimore, Md. *Medicine, Neurology.* Baltimore, May 25, 61. Haverford, 78–79; Hopkins, 79–82; M.D, Maryland, 85; Heidelberg, Vienna and Berlin, 86; Hopkins, 87. Asst. *neur,* Hopkins Hosp, 89–96, *clin. prof, Hopkins, 96–* Neurologist, Hopkins Hosp. and Dispensary; consulting neurologist, Home for Incurables; Presbyterian Eye, Ear and Throat Hosp; etc. Hon. A.M, Hopkins, 02. Neur. Ass; Am. Med. Ass; local med. societies. Diseases of the nervous system.

Thomas, Dr. J(ohn) J(enks), 88 Bay State Road, Boston, Mass. *Medicine, Neurology.* Columbus, O, Sept. 6, 61. A.B, Williams, 86; A.M, M.D, Harvard, 90. *Asst. neurologist, Children's Hosp, 92–; asst. physician diseases nervous system, Boston City Hosp, 93–;* pathologist, Boston Insane Hosp, 99–04; *instr. neur, Med. Sch, Tufts, 02–* Physician, Boston Dispensary, 92–96. Ass. Path. and Bact; Neur. Ass; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Psychiat. and Neur; Boston Soc. Med. Improv; Boston Soc. Med. Sci. Pathology and pathological anatomy of the nervous system.—Local reaction of the brain to inflammatory processes.

Thomas, Prof. Mason B(lanchard), College Campus, Crawfordsville, Ind. **Botany.* New Woodstock, N. Y, Dec. 16, 66. B.S, Cornell, 90, fellow, 90–92. *Prof. bot, Wabash, 91–* F.A.A; Micros. Soc; Forestry Ass; Bot. Cent. States; Ind. Acad. (pres, 01). Plant histology. —Forestry problems in Indiana; root structures; fungi of Indiana.

Thompson, Dr. A(lton) H(oward), 720 Kansas Ave, Topeka, Kas. *Anthropology, Odontology, Dental ethnology.* Logansport, Ind, April 8, 49. D.D.S, Phila. Dental Col. *Prof. comp. dental anat, Kansas City Dental Col, 80–;* dental path. and comp. anat, Phila. Dental Col, 99–00; *lecturer* comp. dental anat, Dental Sch, Northwestern, 99; *Dental Dept, Tennessee, 01–* F.A.A; Nat. Dental Ass; Folk-lore Soc; Kas. Acad. Comparative dental anatomy; ethnology of the teeth; anthropology.—Ethnographic odontology of Inca Peruvians, the ancient Mexicans, the mound-builders, etc.

Thompson, Dr. C(aroline) B(urling), Wellesley College, Wellesley, Mass. *Biology.* Philadelphia, Pa, June 27, 69. B.S, Pennsylvania, 98, fellow, 99–01, Ph.D, 01. Teacher math, Mrs. Head's Sch, Germantown, 92; science, Mrs. Comegys and Miss Bell's Sch, Chestnut Hill, Phila, 94; *instr. zool, Wellesley, 01–* Soc. Zool; assoc. Ornith. Union; Audubon Soc; Boston Soc. Nat. Hist. Comparative anatomy and histology of the nemertean worms.—The arrangement of the brain commissures in the nemertean Cerebratulus lacteus.

Thompson, Charles Henry, Missouri Botanical Garden, St. Louis, Mo. *Botany.* Turlock, Cal, June 23, 70. B.S, Kas. State Agr. Col, 93, M.S, 98. Instr. bot, Shaw Sch. of Bot, 93–95; bot. asst, Mo. Bot. Garden, 95–96; instr. bot, Missouri, 96–97; *in charge, Dept. Succulent Plants, Mo. Bot. Garden, 04–* Field agent, U. S. Dept. Agr, 93, expert seed tester, 96; forest reserve, Dept. Interior, 00. Engelmann Bot. Club; St. Louis Cactus Ass. Systematic botany.—Cactaceae; Lemnaceae.

Thompson, Prof. E(dward) P(ayson), Oxford, O. *Mathematics.* Ross Grove, Ills, May 4, 58. A.B, Monmouth, 79, A.M, 81; Hopkins, 90–91. *Prof.* math, Geneva (Pa.), 80–90; math. and chem, Westminster (Pa), 91–93; *math, Miami, 93–* Mem. Int. Cong. Math, Paris, 00. Math. Soc; Ohio Teachers Math. and Sci. Mathematics.—Philosophy of mathematics.

Thompson, Dr. Helen B(radford), Mt. Holyoke College, South Hadley, Mass. *Psychology.* Chicago, Ills, Nov. 6, 74. Ph.B, Chicago, 97, fellow, 97–00, Ph.D, 00, Ass. Col. Alumnae fellow, 00–01. *Prof. psychol. and director, Psychol. Lab, Mt. Holyoke, 01–* Psychol. Ass. The mental traits of sex; affective processes; judgment of area on the skin; structure of the cortex; theory of the judgment.—Peripheral color vision.

Thompson, Prof. H(enry) D(allas), Princeton, N. J. **Mathematics.* Metuchen, N. J, Aug. 24, 64. A.B, Princeton, 85, fellow, 85–86; fellow, Hopkins, 86–87; A.M, Princeton, 88, Sc.D, 89; Ph.D, Göttingen, 92. Tutor, later asst. prof. and *prof. math, Princeton, 88–* Math. Soc. Mathematics.

Thompson, Prof. Joseph O(sgood), Amherst, Mass. **Physics.* Weymouth, Mass, July 29, 63. A.B, Amherst, 84; Ph.D, Strasburg, 91. Instr. math, Amherst, 87–89; *physics,* Haverford, 91–94; *assoc. prof, Amherst, 94–* F.A.A; Physical Soc. Elasticity of metals.—Fatigue in the elasticity of torsion in metals.

Thompson, Dr. M(aurice) de Kay, Jr, Massachusetts Institute of Technology, Boston, Mass. *Electrochemistry.* Covington, Ky, July 23, 77. B.S, Mass. Inst. Tech, 98; Ph.D, Basel, 03. Asst. physics, *Mass. Inst. Tech,* 98–01, *instr. electrochem, 01–* Electrochem. Soc; Bunsen Gesell. Dielectric constant of liquid ammonia; Siemen's process for winning copper.

Thompson, Dr. M(illett) T(aylor), Clark College, Worcester, Mass. *Zoology.* Providence, R. I, Aug. 27, 75. A.B, Brown, 98, Ph.D, 02. *Instr. zool, Col. Dept, Clark, 02–* M.A.A; assoc. Ornith. Union; Boston Soc. Nat. Hist. Crustacean metamorphosis.—Id; alimentary canal in Diptera.

Thompson, Dr. R(alph) L(eroy), Grand Ave. and Caroline St, St. Louis, Mo. *Pathology.* Lisbon, Me, Nov. 15, 72. A.B, Bates, 96; M.D, Harvard, 00; A.M, Bates, 02; fellow, Rockefeller Inst. for Med. Research, 02–03. Asst. pathologist, Boston City Hosp, 03–04; *assoc. prof. path, Med. Dept. St. Louis, 04–* Ass. Path. and Bact; St. Louis Med. Sci. Club. Pathology.

Thompson, Dr. W(illiam) Gilman, 34 E. 31st St, New York, N. Y. *Medicine.* New York, Dec. 25, 56. Ph.B, Yale, 77; M.D, Columbia, 81. *Visiting physician, Bellevue and Presbyterian Hospitals; prof. med, Med. Col, Cornell, 98–* Visiting physician, N. Y. Hosp, 87–95; prof. physiol. and mat. med, Med. Sch, N. Y. Univ, 87–98. F.A.A; Am. Physicians; Am. Med. Ass; N. Y. State Med. Ass; N. Y. Med. and Surg. Soc; N. Y. Acad. Med; N. Y. Co. Med. Soc; N. Y. Clin. Soc; N. Y. Practitioners' Soc; fel. N. Y. Acad. Medicine.

Thomson, Elihu, 22 Monument Ave, Swampscott, Mass. **Electrical engineering.* Manchester, England, March 29, 53. A.B, A.M, Central High Sch, Phila, 70. Asst. prof. chem, Central High Sch, Phila, 70–75, prof, 75–80; *electrician, Thomson-Houston and Gen. Elec. Companies, 80–* Mem. corporation, Mass. Inst. Tech. John Scott medals, 88, 00; Grand Prix (elec. invention), Paris, 89, 00; Rumford medal, 01; Chevalier and Officier Légion d'honneur, 89; hon. A.M, Yale, 90; Ph.D, Tufts, 96. U. S. delegate, Int. Elec. Cong, 93; St. Louis, 04 (pres, Chamber of Delegates, pres. of Cong.). F.A.A. (v. pres, 99); Physical Soc; Elec. Eng. (past pres.); Chem. Soc; Philos. Soc; Am. Acad; hon. mem. British Inst. Elec. Eng; British Inst. Civil Eng. Phenomena of alternating current induction; high potentials and high frequency apparatus; electric welding.—General development in electricity and allied fields.

Thomson, Dr. William, 1426 Walnut St, Philadelphia, Pa. *Ophthalmology, Surgery.* Chambersburg, Pa, Jan. 28, 33. M.D, Jefferson Med. Col, 55. Practising physician, 56–61; surgeon and director of Govt. hospitals, U. S. A, 61–68; asst. surgeon *diseases of the eye, Wills Hosp, Phila,* 68–72, surgeon, 72–77, emer. surgeon, 77–96, *surgeon, 96–;* clin. lecturer diseases of eye and ear, Jefferson Med. Col, 73–80; ophthal. surgeon, Jefferson Med. Col. Hosp, 77–; hon. prof. *ophthal, Jefferson Med. Col,* 80–95, prof, 95–97, *emer. prof, 97–* Eye and ear expert, Pa. R. R. and Reading R. R, 80–; ed. path, 'Annual of the Med. Sciences,' 89. Int. Med. Cong, Phila. (v. pres, Ophthal. Sect.). F.A.A; Am. Med. Ass; fel. Surg. Ass; Ophthal. Soc; Otol. Soc; Philos. Soc; Pa. Med. Soc; Phila. Co. Med. Soc; Phila. Ophthal. Soc; Phila. Acad; fel. Phila. Col. Physicians; Phila. Path. Soc; hon. mem. N. Y. Neur. Soc. Ophthalmology; otology; color vision and color-blindness; acuteness of vision and hearing.

Thornber, Prof. J(ohn) J(ames), University of Arizona, Tucson, Ariz. *Botany, Biology.* Rantoul, Ills, Feb. 8, 72. B.S, S. Dak. Agr. Col, 95; B.S, Nebraska, 97, A.M, 01. Instr. sciences, High Sch, Nebr. City, 97–01; *botanist, Exp. Sta, and biologist, Arizona, 01–* Asst, Nebr. Bot. Surv, 97–01. F.A.A; Bot. Cent. States; Int. Ass. Bot. Ecological aspects of the flora of eastern Nebraska.—Taxonomy and ecology of the flora of Arizona.

Thornburg, Prof. C(harles) L(ewis), 308 Packer Ave, South Bethlehem, Pa. *Mathematics, Astronomy.* Barboursville, W. Va, April 17, 59. Fellow, Vanderbilt, 80–83, B.S, 81, B.E, 82, C.E, 83, Ph.D, 84. Teacher, pub. schools, W. Va, 77–80; asst. eng, Vanderbilt, 84, instr, 85–87, adj. prof, 87–95; *prof. math. and astron, Lehigh, 95–* F.A.A; Math. Soc; Eng. Educ.

Thorndike, Prof. Edward L(ee), Teachers College, New York, N. Y. **Psychology.* Williamsburg, Mass, Aug. 31, 74. A.B, Wesleyan, 95; A.B, Harvard, 96, A.M, 97; Ph.D, Columbia, 98. Instr. educ. and teaching, Col. for Women, Western Reserve, 98–99; *genetic psychol, Teachers Col, Columbia,* 99–01, adj. prof, 01–03, *prof, 04–* Head, Dept. Comp. Psychol, Woods Hole, 00–02. F.A.A; Soc. Nat; Psychol. Ass; Philos. Ass; fel. N. Y. Acad. Animal psychology; educational psychology (fatigue, training, functional relationships).—Inheritance of mental traits; functional relationships of mental traits.

Thorp, Prof. F(rank) H(all), 45 Oriole St, West Roxbury, Mass. **Chemical technology.* Bloomington, Ills, Feb. 25, 64. B.S, Mass. Inst. Tech, 89; Ph.D, Heidelberg, 93. Asst. chem, *Mass. Inst. Tech,* 89–91, instr, 94–00, *asst. prof. indust. chem, 01–* Field asst, U. S. Geol. Surv, 86–87. Chem. Soc; Soc. Chem. Indust; Chem. Gesell. The preparation of boiled linseed oil; oxims of substituted benzophenones.

Thruston, Gen. Gates P(hillips), Nashville, Tenn. *History, Archeology, Numismatics.* Dayton, O, June 11, 35. A.B, A.M, Miami, 55. Tenn. commissioner, Paris Expos. L.H.D, Miami. F.A.A; Tenn. Hist. Soc. (v. pres, 85–); cor. mem. N. Y. Archeol. and Numis. Soc; cor. mem. Phila. Numis. and Antiq. Soc. Archeology; numismatics.—Archeology and history of Tennessee; history of the Civil War.

Thruston, R(ogers) C(lark) Ballard, Louisville, Ky. *Mining, Geology.* Louisville, Nov. 6, 58. Ph.B, Yale, 80. With Ky. Geol. Surv, 82–87; Ky. Union Land Co, 89–95; *mining engineer.* F.A.A. Metallurgy of coal.

Thwing, Prof. Charles B(urton), 121 Phelps Place, Syracuse, N. Y. **Physics.* Theresa, N. Y, March 9, 60. A.B, Northwestern, 88; Ph.D, Bonn, 94. Instr. *physics,* Acad, Northwestern, 88–93; Wisconsin, 94–96; *prof,* Knox, 96–01; *Syracuse, 01–* Physical Soc. Dielectric constant; gravitation; color photography; thermoelectric properties of alloys; conductivity of metals.

Tight, Pres. W(illiam) G(eorge), Albuquerque, N. Mex. *Geology.* Granville, O, March 12, 65. A.B, Denison, 86, A.M, 87; Ph.D, Chicago, 02. Prof. geol. and nat. hist, Denison, 87–01; *pres. and prof. geol, New Mexico, 01–* F.A.A; Geol. Soc. (pres, Cordilleran Sect, 05); Ohio Acad. Physiography and glacial geology of Ohio.—Geological problems in New Mexico.

Tilden, Prof. Josephine E(lizabeth), University of Minnesota, Minneapolis, Minn. *Botany.* Davenport, Ia. B.S, Minnesota, 95. Instr. *bot, Minne-*

sota, 98–02, asst. prof, 02– American Algae; centuries, I–VI.—The Algae of the Hawaiian Islands.

Tilton, Prof. John L(ittlefield), Indianola, Ia. *Geology.* Nashua, N. H, Jan. 11, 63. A.B, Wesleyan, 85, A.M, 88; A.M, Harvard, 95; fellow, Chicago, 02–03. Asst. nat. hist, Wesleyan, 86–88; *prof. nat. sciences, Simpson, 88–* M.A.A; Soc. Nat; fel. Iowa Acad. Geology of Warren and Madison Counties, Iowa.—Pleistocene deposits of Warren County, Iowa.

Tingle, Dr. A(lfred), 41 Alexander St, Toronto, Can. *Chemistry.* Sheffield, England, Nov. 4, 76. B.S, Aberdeen, 96, and London, 97; Ph.D, Pennsylvania, 99. Asst. chem, Wisconsin, 99–00; anal. chem, Columbia, 00–02; *junior asst, Chem. Lab, Toronto.* Chem. Soc. Tantomerism of organic compounds.

Tingle, Dr. J(ohn) Bishop, Johns Hopkins University, Baltimore, Md. *Chemistry.* Sheffield, England, Nov. 12, 66. Owens Col, Manchester, 84–87; Ph.D, Munich, 89. Asst. chem, Heriot-Watt Col, Edinburgh, 89–90; lecturer chem, Tech. Col, Bristol, 90–92; lecturer and head, Chem. Dept, Gordon's Col, Aberdeen, 92–96; instr. chem, Lewis Inst, Chicago, 97–01; prof, Illinois Col, 01–04; *asst. in charge org. chem. Hopkins, and sub-ed, 'Am. Chem. Jour,' 04–* Asst, Org. Research Lab, Royal Col. Science, London, 90. F.A.A; Chem. Soc; fel. London Chem. Soc; Chem. Gesell. Preparation and reactions of 1:3 diketones, especially the preparation of camphor derivatives.—Id; condensation compounds of camphoroxalic acid; nitration of anilin.

Titchener, Prof. E(dward) Bradford, Cornell Heights, Ithaca, N. Y. **Psychology.* Chichester, England, Jan. 11, 67. Malvern Col, 81–85; A.B, Oxford, 90; Ph.D, Leipzig, 92; A.M, Oxford, 94. Asst. prof. *psychol, Cornell,* 92–95, *Sage prof, 95–* Lecturer biol, Univ. Exten, Oxford, 92; Am. ed, 'Mind,' 94–; assoc. ed, 'Am. Jour. Psychol,' 95– LL.D, Wisconsin, 04. Third and Fourth Psychol. Congresses (mem. Int. Committee). F.A.A; fel. London Zool. Soc; London Neur. Soc; London Aristot. Soc; hon. mem. Mind Ass. Vision; affective processes; attention; action; systematization of experimental psychology.—Affective processes; mental measurement and psychophysical methods.

Tittmann, Otto H(ilgard), 1624 Riggs Place, Washington, D. C. *Geodesy, Hydrographic surveying.* Belleville, Ills, Aug. 20, 50. High Sch. Aid, *U. S. Coast and Geod. Surv, 67, supt, 00–* Asst. astronomer, Transit of Venus Exped, 74; asst. in charge, U. S. Weights and Measures, 87–94; U. S. Commissioner, Alaska Boundary, 00–; mem. Permanent Committee, Int. Geod. Ass, 00– F.A.A. (v. pres, 04); Astron. and Astrophys. Soc; Civil Eng; Wash. Acad; Wash. Philos. Soc. (pres, 99).

Titus, E(dward) S(harpe) G(aige), U. S. Department of Agriculture, Washington, D. C. *Entomology.* Quaker Street, N. Y, May 26, 73. B.S, Colo. Agr. Col, 99, M.S, 01. Teacher, pub. schools, Colo, 97, 98, 00; asst. zool, physiol. and entom, Colo. Agr. Col, 00–01; field asst. to state entomologist, Ills, 01–03; *special field agent, Bur. Entom, U. S. Dept. Agr, 03–* M.A.A; Ass. Econ. Entom; Wash. Entom. Soc. Economic entomology; systematic studies in Hymenoptera, especially Apoidea.

Todd, Prof. David, Observatory House, Amherst, Mass. *Astronomy.* Lake Ridge, N. Y, March 19, 55. Columbia, 70–72; A.B, Amherst, 75, A.M, 78; Ph.D, Washington and Jefferson, 88; F.S.A, London, 03. Asst, U. S. Transit Venus Commission, 75–78; chief asst, 'Nautical Almanac' Office, 78–81; *prof.* astron. and higher math, Smith, 81–87; *astron. and navigation and director, Observatory, Amherst, 81–* Chief, Eclipse Expeditions, Texas, 78, Japan, 87, West Africa, 89–90, Japan, 96, Tripoli, 00, Dutch East Indies, 01, Tripoli, 05; in charge observations of transit of Venus, Lick Observatory, 82. Imp. Saki cup, Emperor of Japan, 97. F.A.A; Astron. and Astrophys. Soc; Wash. Philos. Soc; Astron. Gesell; cor. mem. Cherbourg Soc. Nat. des Sci. nat. et math. Observations and tables of Jupiter's satellites; sun-spots; total eclipses; solar parallax; trans-Neptunian planet; sun's corona; improvements in observatories and instruments, especially the automatic photography of total eclipses.—Solar corona; trans-Neptunian planet; automatic photography of eclipses; improvements in astronomical instruments.

Todd, Prof. H(enry) D(avis), U. S. N. (retired), The Bancroft, Washington, D. C. *Mathematics, Astronomy, Physics.* Cambridge, Mass, Aug. 25, 38. Grad, U. S. Naval Acad, 57. Instr. gunnery, U. S. Naval Acad, 63–64, math, 65–66, physics, 77, head, Dept. Physics and Chem, 78–86; asst, 'Nautical Almanac,' 86–99, director, 99–00.

Todd, Prof. J(ames) E(dward), Vermilion, S. Dak. **Geology.* Clarksfield, O, Feb. 11, 46. A.B, Oberlin, 67, A.M, 70; Sheffield Sci. Sch, 70; Summer Sch. Geol, Harvard, 75. Prof. nat. science, Tabor, 71–92; geol. and miner, South Dakota, 92–03; state geologist, S. Dak, 93–03. Adj. prof. nat. science, Beloit, 81–83; asst. geologist or field asst, U. S. Geol. Surv, 81–88, 97–; Mo. Geol. Surv, 92; Minn. Geol. Surv, 92–93. F.A.A; Geol. Soc; Wash. Geol. Soc; cor. mem. Iowa Acad. Cross fertilization of flowers; colors of animals; moraines; margin of drift and loess in Missouri, Iowa, Nebraska, South Dakota and North Dakota; artesian waters of South Dakota.—The Cretaceous of South Dakota; the artesian area of the Dakotas; areal geology of James River valley.

Tolman, Gilbert, Milo, Me. *Physics.* Milo, Oct. 15, 72. B.M.E, Maine, 96; A.M, Columbia, 01. Instr. science, Shaw Univ, 96–00; asst. physics, Columbia, 01–03. Instr. physics, Mechanics Inst, N. Y. Physical Soc. The absorption of light by incandescent gases.—The electric arc.

Tooker, W(illia)m Wallace, Sag Harbor, N. Y. *Algonquian language.* Sag Harbor, Jan. 14, 48. Pub. sch. Pharmacist, 66–97; *in real estate and insurance business, 97–* F.A.A. (sec'y, H, 75); Wash. Anthrop. Soc; cor. mem. Phila. Numis. and Antiq. Soc; cor. mem. Brooklyn Inst. Algonquian nomenclature.—Id. (Virginian names of John Smith and names on Marthas Vineyard).

Torbert, John B(ryant), 111 C St, S. E, Washington, D. C. *Geography.* Washington, D. C, May 8, 67. LL.B, Columbian, 88, LL.M, 89. Topog. and geol. draftsman, U. S. Geol. Surv, 86–93; *topog. draftsman and geographer, Topographer's Office, U. S. Post Office Dept, 93–* Nat. Geog. Soc; Wash. Anthrop. Soc; Wash. Geol. Soc. Development of maps; geography as an aid to history; relation and influence of topography on human activities and the progress of the world.—Primitive map making; growth and development of United States illustrated by a series of maps; the earliest authentic arctic explorations.

Torrey, Prof. Harry Beal, 2523 Aetna St, Berkeley, Cal. **Biology.* Boston, Mass, May 22, 73. B.S, California, 95, M.S, 98; fellow, Columbia, 00–01, Ph.D, 03. Asst. *zool, California,* 95–98, instr, 98–00, 01–04, *asst. prof, 04–* F.A.A; Soc. Zool. Non-sexual reproduction in animals; regeneration; variation; animal behavior; taxonomy.—Methods of reproduction and regeneration of invertebrates compared; experimental evolution and taxonomy among Coelenterata.

Torrey, Prof. Henry A(ugustus), Harvard University, Cambridge, Mass. *Chemistry.* Burlington, Vt, Aug. 29, 71. A.B, Vermont, 93; A.M, Harvard, 96, Ph.D, 97; Leipzig and Berlin, 97–98. Asst. chemist in food investigations, U. S. Dept. Agr. at Middletown, Conn, 94–95; instr. *chem,* Vermont, 98–99, asst. prof, 99–03; instr, *Harvard,* 03–05, *asst, prof, 05–* Instr. org. chem, Summer Sch, Harvard, 97. Chem. Soc; Chem. Gesell. Aromatic series; quinone and nitroso dimethyl anilin derivatives.—Action of ethylene dibromid on paranitroso dimethyl anilin; dissociation of phenoquinone and allied compounds.

Torrey, Dr. John C(utler), Cornell University Medical College, New York, N. Y. *Biology, Bacteriology.* Burlington, Vt, April 19, 76. A.B, Vermont, 98; Ph.D, Columbia, 02; *fellow, Med. Col, Cornell, 04–* Asst. zool, Columbia, 00–01; bacteriologist, Sea Side Hosp, Staten Isl, N. Y, 03–04; asst. instr. histol. and bacter, Med. Col, Cornell, 03–04. Soc. Exp. Biol. and Med; N. Y. Acad. The development of the mesoblast in Thalassema; cytological changes accompanying the secretion of diastase; dysentery and dysentery-like organisms.—Stable and detachable agglutinogen of typhoid bacilli.

Tory, Prof. H(enry) Marshall, McGill University, Montreal, Can. *Mathematics.* Guysboro, N. S, Jan. 11, 64. A.B, McGill, 90, A.M, 95, Sc.D, 03. Lecturer math. and demonstrator physics, *McGill,* 92–98, lecturer *math,* 98–03, *assoc. prof, 03–* Sec'y, Univ. Exam. Board, 96–02. LL.D, McGill, 05. Math. Soc; Physical Soc. Comparison of Le Chatellier pyrometers with platinum resistance pyrometers; standardizing thermo-junctions; effect of dissolved gases on metallic surfaces.—A direct reading air thermometer.

Toumey, Prof. J(ames) W(illiam), 459 Prospect St, New Haven, Conn. **Forestry.* Lawrence, Mich, April 17, 64. B.S, Mich. Agr. Col, 89, M.S, 96. Instr. bot, Mich. Agr. Col, 90–91; prof, Arizona, 92–98; supt, Sect. Forest Extension, Bur. Forestry, U. S. Dept. Agr, 99–00; asst. prof. *forestry, Yale,* 01–03, *prof. and director, Bot. Gardens, 03–* Soc. Nat; Soc. Foresters; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; Wash. Acad. The crown gall, a root disease of fruit trees; desert plants in their relation to environment.—The relation of the root system of woody plants to local distribution; the relation of forest cover to the run-off of streams.

Tower, Geo(rge) W(arren), Jr, Butte, Mont. *Geology, Mining.* Cambridge, Mass, Oct. 27, 71. A.B, Harvard, 94, A.M, 95. Instr. physics, Boston, 94; teacher sciences, High Sch, Quincy, Mass, 95; geologist, U. S. Geol. Surv, 95–99; *geologist and mining engineer, 99–* Min. Eng; Mont. Eng. Soc; Wash. Geol. Soc. Economic geology; mining and mine examinations.

Tower, Dr. O(lin) F(reeman), 2662 Euclid Ave, Cleveland, O. *Physical chemistry.* Brooklyn, N. Y, March 19, 72. Willamette; A.B, Wesleyan, 92, A.M, 93; Ph.D, Leipzig, 95. Asst. *chem,* Wesleyan, 93–94, 96–98; instr, *Adelbert,* 98–91, *asst. prof, 01–* Asst. chemist in food investigation for U. S. Dept. Agr, Middletown, Conn, 95–98. F.A.A; Chem. Soc; Chem. Gesell. Manganese superoxid electrodes; conduct of aqueous solutions of various organic salts of Ni and Co; transport number of sulphuric acid; action of nitrogen on water vapor at high temperatures.

Tower, Prof. R(alph) W(infred), American Museum of Natural History, New York, N. Y. *Physiological chemistry.* Amherst, Mass, May 24, 70. Colby, 88–90; A.B, Brown, 92, A.M, 93; Leipzig, 93–94; Harvard Med. Sch, 00–01; Ph.D, Brown, 03. Instr. chem. physiol, Brown, 95–98, asst. prof, 98–01, assoc. prof, 01–03; *head, Dept. Physiol, and curator books and publications, Am. Mus. Nat. Hist, 03–* F.A.A; Soc. Nat. Opening of brick-red gland in Limulus; function of the swim bladder in fishes; organic constituents of scales of fish; biliary calculi in the squeteague; does KCN prolong the life of the unfertilized egg of the sea urchin?—Drumming mechanism in fishes.

Tower, William Lawrence, University of Chicago, Chicago, Ills. **Zoology, Embryology, Animal evolution.* Halifax, Mass, Dec. 22, 72. Lawrence Sci. Sch, Harvard, 93–96, Grad. Sch, 98–00; B.S, Chicago, 02. Asst. entom, Mass. Dept. Agr, 93; zool, Harvard, 94–96; instr, Central

High Sch, Akron, O, 97–98; asst, Harvard, 98–00; prof. zool. and physiol, Antioch, 00; asst. embryol, *Chicago*, 01–02, assoc. embryol. and comp. anat, 03, *instr. embryol, 04–* Soc. Nat; Soc. Zool; Chicago Acad. Nervous system of cestodes; insect metamorphoses; development of colors and color pattern in insects; effect of temperature, moisture, etc, upon insect variations.—Insect metamorphoses; development of coloration in insects; production and prevention of new characters, races and species in insects (experimental).

Towle, Prof. W(illiam) M(ason), Smith College, Syracuse University, Syracuse, N. Y. *Mechanical engineering.* Franklin, Vt, Dec. 21, 51. B.S, Worcester, 77. Instr. machine tool work, Rose, 86–88; instr. and foreman, machine shop, Sibley Col, Cornell, 89–91; asst. prof. *practical mech*, Pa. State, 92–02; *assoc. prof. and supt. shops, Syracuse, 02–* F.A.A; Mech. Eng; Eng. Educ; Franklin Inst.

Towne, Henry R(obinson), 121 Madison Ave, New York, N. Y. *Mechanical engineering.* Philadelphia, Pa, Aug. 28, 44. Pennsylvania, 65; Sorbonne, Paris, 66. *Pres, The Yale and Towne Mfg. Co, Stamford, Conn, 69–* Hon. A.M, Pennsylvania, 85. Mech. Eng. (pres, 88–89). Mechanical engineering; industrial management.

Townley, Dr. Sidney D(ean), Ukiah, Cal. *Astronomy.* Waukesha, Wis, April 10, 67. B.S, Wisconsin, 90, fellow and asst, 90–92, M.S, 92; fellow, California, 92–93; Sc.D, Michigan, 97. Instr. astron, Michigan, 93–98; California, 98–03; *astronomer in charge, Int. Lat. Observatory, Ukiah, Cal, 03–* Math. Soc; Astron. and Astrophys. Soc; Pacific Astron. Soc. Variable stars; asteroids; comets.—Photometric determination of light curves of variable stars; orbit and special perturbations of Psyche.

Townsend, Charles Haskins, Aquarium, New York, N. Y. *Zoology.* Parnassus, Pa, Sept. 29, 59. Pub. schools; Acad. Nat. Sciences, Phila, 82–83. Asst, U. S. Fish Commission, 83; naturalist, U. S. Steamer 'Corwin,' Arctic Exped, 85; 'Albatross' Exped, 86–96; chief, Div. Fisheries, U. S. Fish Commission, 97–02; *director, N. Y. Aquarium, 02–* Mem. U. S. Fur-seal Commission, 96–97; fishery expert, Russo-Am. arbitration, The Hague, 02. Mem. Ornith. Union; Fisheries Soc; fel. N. Y. Acad; Wash. Acad; Commercial fisheries; fur-seal industries; deep sea exploration; mammalogy; ornithology.

Townsend, C(harles) H(enry) T(yler), Batanzas, Province of Batanzas, P. I. *Entomology.* Oberlin, O, Dec. 5, 63. Med. Dept, Columbian, 87–90. Asst. entomologist, U. S. Dept. Agr, 89–91; prof. entom, zool. and physiol, N. Mex. Agr. Col, and entomologist, Exp. Sta, 91–93; curator, Mus, Inst. Jamaica, 93–94; temporary field agent, Div. Entom, U. S. Dept. Agr, 94–98; biogeographer and syst. entomologist, N. Mex. Agr. Col. Exp. Sta, 98–99; *teacher agr. and sciences, Batanzas Prov. High Sch, P. I, 99–* Systematic dipterology and coccidology; biogeography; economic entomology.—Zoogeography of Mexico.

Townsend, Dr. C(harles) O(rrin), Takoma Park, D. C. *Plant pathology.* Washtenaw Co, Mich, Jan. 16, 63. B.P, Mich. State Nor. Sch, 91; B.S, Michigan, 88, M.S, 91; Leipzig, 95–97, Ph.D, 97. Prof. nat. science, St. John's (Md.), 88–91; Wesleyan (Ga.), 91–95; instr. bot, Barnard, Columbia, 97–98; prof, Md. Agr. Col, and state plant pathologist, 98–01; *plant pathologist in charge sugar-beet investigations, U. S. Dept. Agr, 01–* F.A.A; assoc. Bot. Soc; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; Wash. Biol. Soc; Wash. Bot. Soc. Physiology and pathology of plants; der Einfluss des Zellkerns auf die Bildung der Zellhaut; diseases of the sugar-beet; the development of a beet seed ball containing a single seed; etc.—Treatment of beet seed balls to improve germination; selection of sugar-beets to increase tonnage, sugar content, alkali resistance, etc.

Townsend, Prof. E(dgar) J(erome), 510 John St, Champaign, Ills. *Mathematics.* Litchfield, Mich, Feb. 22, 65. Ph.B, Albion, 90; Ph.M, Michigan, 91; Ph.D, Göttingen, 00. Instr. *math*, Chicago Manual Training Sch, 91–93; asst. prof, *Illinois*, 93–95, assoc. prof, 95–05, *prof. and acting dean, Col. Science, 05–* Math. Soc. (mem. Exec. Committee, Chicago Sect, 00–02). Applications of double limits; interchange of order of differentiation; uniform convergence of infinite series; continuity of functions defined by an infinite series of continuous functions.—Differential and integral calculus.

Tracy, Dr. F(rederick), 173 Walmer Road, Toronto, Can. *Philosophy.* Claremont, Ont, May 18, 62. Pickering, 83–84; A.B, Toronto, 89, fellow, 90–92; fellow, Clark, 92–93, Ph.D, 93. Commercial master, Pickering, 85; *lecturer philos, Toronto, 93–; pedag, McMaster, 01–* Philos. Ass; Religious Educ. Ass; Ills. Soc. Child Study; Ont. Child Study Ass. Left-handedness; the psychology of childhood; pedagogy.—Theory of knowledge; child-study.

Tracy, S(amuel) M(ills), Biloxi, Miss. *Botany, Agriculture.* Hartford, Vt, April 30, 47. B.S, Mich. Agr. Col, 68, M.S, 73. Prof. bot, Missouri, 77–87; director, Miss. Agr. Exp. Sta, 87–97; *special agent investigations, U. S. Dept. Agr, 87–* F.A.A; Soc. Prom. Agr. Sci. Botany of the southern United States; agriculture.—Botany of the Gulf Coast; improvement of cotton by selection and breeding.

Tracy, William W, 608 The Cecil, Corner 15th and L Sts, Washington, D. C. *Horticulture.* Hudson, O, May 21, 45. B.S, Mich. Agr. Col, 67, M.S, 70. Prof. hort, Mich. Agr. Col, 70–72; *supt. of testing gardens, U. S. Dept. Agr, 02–* Soc. Hort. Sci. Varietal differences in garden vegetables.

Transeau, Prof. E(dgar) N(elson), Box 21, Alma, Mich. *Botany.* Williamsport, Pa, Oct. 21, 75. A.B, Franklin and Marshall, 97; Chicago, 00–01; Ph.D, Michigan, 04. Teacher, High Sch,

Williamsport, Pa, 97–00; Colo. Springs, 01–02; *prof. biol, Alma, 04–* Instr. field bot, Biol. Sta, Indiana, 01; bot. and geol, Chautauqua, 02–03; ecol. bot, Chicago, 05. M.A.A; Geog. Ass; Nat. Geog. Soc. Geographic distribution of bog plants; experimental plant ecology.—Ecological anatomy of bog plants; plant societies of the Alma (Mich.) region.

Traphagen, Dr. F(rank) W(eiss), Golden, Colo. *Chemistry.* Eaton, O, July 20, 61. Ph.B, Columbia, 82, Ph.D, 83. Instr. chem, Staunton Mil. Acad, 84–87; prof, Col. of Mont, 87–93; Mont. Col. Agr. and Mech. Arts, and chemist, Mont. Exp. Sta, 93–03; *prof. metal. and assaying, Colo. Sch. of Mines, 03–* Assayer, Champion Mining Co, 90–93; in charge Mont. mining exhibits, Columbian Expos, 93. F.A.A; Chem. Soc; Min. Eng; Soc. Chem. Indust; West. Ass. Tech. Chem. and Metal. (pres, 04–05); Franklin Inst; London Chem. Soc; Chem. Gesell. Chemistry of soils, foods, etc.—Plants and waters poisonous to stock; metallurgy and metallurgical chemistry.

Trautwine, John C(resson), Jr, 257 S. Fourth St, Philadelphia, Pa. *Civil and hydraulic engineering.* Philadelphia, March 17, 50. Private schools. Mem. Civil Service Exam. Boards, Phila, 93–95; sec'y, Ass. of Eng. Societies, 94–05; chief, Bur. of Water, Phila, 95–99. Civil Eng; Am. Water Works Ass; New Eng. Water Works Ass; Franklin Inst; Phila. Eng. Club; London Inst. Civil Eng.

Treadwell, Prof. Aaron L(ouis), Vassar College, Poughkeepsie, N.Y. **Zoology.* Redding, Conn, Dec. 23, 66. B.S, Wesleyan, 88, M.S, 90; Ph.D, Chicago, 99. Asst. nat. hist, Wesleyan, 88–91; *prof.* biol. and geol, Miami, 91–00; *biol, Vassar, 00–* Instr, Woods Hole, 98– Soc. Nat; Soc. Zool. Annelid morphology.—Annelid embryology.

Trelease, Prof. W(illia)m, Missouri Botanical Garden, St. Louis, Mo. **Botany.* Mount Vernon, N. Y, Feb. 22, 57. B.S, Cornell, 80; Sc.D, Harvard, 84. Instr. *bot,* Cornell, 80; Wisconsin, 81–83, *prof,* 83–85; *Washington (St. Louis), 85–; director, Mo. Bot. Garden, 89–* Special agent on cotton insect, U. S. Dept. Agr, 79; lecturer bot, Hopkins, 81; in charge, Summer Sch. Bot, Harvard, 83–84. LL.D, Wisconsin, 02; Missouri, 03. Nat. Acad; F.A.A; Soc. Nat; Bot. Soc; Soc. Prom. Agr. Sci; Bot. Cent. States; Philos. Soc; Am. Acad. Botany and entomology, especially pollination arrangements, parasitic fungi and certain groups of flowering plants.

Trevor, Prof. J(oseph) E(lis), The Circle, Ithaca, N. Y. **Physical chemistry.* Lockport, N. Y, Oct. 11, 64. Cornell, 88–90; Ph.D, Leipzig, 92. Asst. prof. *gen. and physical chem, Cornell,* 92–00, *prof, 00–* Co-editor, 'Jour. Physical Chem.' Physical Soc; Chem. Soc. Thermodynamics.—Thermodynamics in chemistry.

Triplett, Prof. Norman, 709 Mechanic St, Emporia, Kas. *Psychology, Child-study.* Perry, Ills, Oct. 1, 61. A.B, Illinois, 89; A.M, Indiana, 98; Ph.D, Clark, 00. Supt. pub. sch, New Berlin, Ills, 89–91; instr. sciences, High Sch, Quincy, Ills, 94–97; pedag, Mt. Holyoke, 00–01; *prof. psychol. and child-study, Kas. State Nor. Sch, 01–* Psychol. Ass. Dynamogenic factors in competition; the psychology of conjuring deceptions; the educability of the perch; rhythm; nursery rhymes; the faults of children; individual psychology; pedagogical arrests and peculiarities.

Trotter, Dr. Spencer, 236 S. Seventh St, Philadelphia, Pa. *Biology, Anatomy, Physiology.* Philadelphia, Feb. 8, 60. M.D, Pennsylvania, 83. Res. physician, Pa. Hosp, 83–85; *prof. biol. and geol, Swarthmore, 88–* Mem. Ornith. Union; Geog. Ass; Nat. Geog. Soc; Phila. Acad. Distribution; effects of environment; general studies in animal physiology.—Effect of climate and environment on the peoples of America.

Trowbridge, Prof. Augustus, University of Wisconsin, Madison, Wis. **Physics.* New York, N. Y, Jan. 2, 70. Columbia, 90–93; Ph.D, Berlin, 97. Instr. physics, Michigan, 98–00; asst. prof. math. physics, *Wisconsin,* 00–03, *prof, 03–* F.A.A; Physical Soc. Infra-red radiation; theory of coherer action; electrolytic condensers; measurement of inductances; measurement of inductances.—Ether drift.

Trowbridge, C(harles) C(hristopher) Columbia University, New York, N. Y. **Physics.* New York, April 26, 70. B.S, Trinity (Conn.), 92, M.S, 03. Asst. *physics, Columbia,* 92–96, tutor, 96–03, *instr, 03–* F.A.A; Physical Soc; N. Y. Acad. (sec'y, Sect. Astron, Physics and Chem.). Specific heat, fluorescence, magnetism and afterglows in gases at liquid-air temperatures; persistent meteor trains; after-glows in gases at low pressure; bird migration; interlocking of wing feathers in flight.

Trowbridge, D(ic) Hector, Lewis Institute, Chicago, Ills. *Chemistry.* Centerville, Mich, Nov. 19, 73. B.S, Michigan, 98. *Instr. physics and chem,* High Sch, Adrian, Mich, 98–99; *Lewis Inst, 99–* Asst. chem, Michigan, summers, 99–00. Chem. Soc. Oils.—Influence of moisture on dielectric strength of oils; influence of temperature and pressure on gases used for heating and lighting.

Trowbridge, Prof. John, Cambridge, Mass. **Physics.* Boston, Mass, Aug. 5, 43. B.S, Harvard, 66, Sc.D, 73. Instr. *physics,* Lawrence Sci. Sch, Harvard, 67–69; Mass. Inst. Tech, 69–71; asst. prof, *Harvard,* 71–81, *prof, 81–* Mem. Int. Commission on Electrical Units; assoc. ed, 'Am. Jour. Science.' Nat. Acad; Philos. Soc; Am. Acad. (v. pres.). Electricity; light.—Electricity; spectra of gases at high temperatures.

Trudeau, Dr. E(dward) L(ivingston), Saranac Lake, N. Y. **Medicine.* New York, N. Y, Oct. 5, 48. M.D, Columbia, 71. *Physician in charge, Adirondack Cottage Sanitarium, 84–; director, Saranac Lab, 94–* Collaborator, 'Zeitschrift für Tuberculose und Heilstätten' and 'Am.

Jour. Exp. Med.' Hon. M.S, Columbia, 99; LL.D, McGill, 04. Ass. Path. and Bact; Am. Physicians; Climat. Ass; N. Y. Acad. Med. Bacteriology of tuberculosis; artificial immunization against tuberculosis; toxins of the tubercle bacillus.—Artificial immunization in tuberculosis.

True, Dr. F(rederick) W(illiam), 1320 Yale St, Washington, D. C. **Zoology.* Middletown, Conn, July 8, 58. B.S, N. Y. Univ, 78, M.S, 82. *Head curator, Dept. Biol, U. S. Nat. Mus, 97–* Representative of Smithsonian Inst. and U. S. Nat. Mus. at Nashville, Omaha, Pan-Am, La. Purchase and Lewis and Clark Expositions. LL.D, N. Y. Univ, 97. F.A.A. (sec'y, F, 99); Soc. Nat; Philos. Soc; Wash. Acad; Wash. Biol. Soc; cor. mem. Phila. Acad; Norfolk and Norwich Nat. Hist. Soc; cor. mem. London Zool. Soc; cor. mem. Chile Soc. Sci. Cetacea and mammals generally.—Identity of the whalebone whales of the North Atlantic Ocean.

True, Dr. Rodney H(oward), 1221 Newton St, Brookland, D. C. **Plant physiology.* Baraboo, Wis, Oct. 14, 66. B.S, Wisconsin, 90, M.S, 92; Ph.D, Leipzig, 95. Instr. pharmacog, Wisconsin, 96–97, asst. prof, 97–00; lecturer bot, Harvard, 01-02; *physiologist, Bur. Plant Indust, U. S. Dept. Agr, 02–* Assoc. ed, 'Pharmaceut. Rev.' F.A.A; Soc. Plant Morph. and Physiol; Bot. Soc; Wash. Bot. Club; Wash. Philos. Soc. Electrolytic dissociation and physiological action in solutions; growth rate; turgor and temperature change; fermentations.—Tea and tobacco fermentations; toxic action of solutions, simple and mixed; drug plant culture in America; poisonous plant investigations.

Trueblood, Mary Esther, 6 Maple St, Springfield, Mass. *Mathematics.* Richmond, Ind, May 6, 72. Ph.B, Earlham, 93; Ph.M, Michigan, 96; fellow, Woman's Educ. Ass. (Göttingen), 00–01. *Instr. math,* Earlham, 97–99; *Mt. Holyoke, 02–* M.A.A; Math. Soc. The directive force of philosophy in the development of mathematical thought; the effect upon pure mathematics of the varying attitude towards its application.—The period of germination preceding Francis Bacon; history of the rôle played in mathematics by the idea of infinity.

Tucker, Prof. R(ichard) H(awley), Lick Observatory, Mt. Hamilton, Cal. **Astronomy.* Wiscasset, Me, Oct. 29, 59. C.E, Lehigh, 79. Asst, Dudley Observatory, 79–83; instr. math. and astron, Lehigh, 83–84; asst, Argentine Nat. Observatory, Cordoba, 84–93; *astronomer, Lick Observatory, 93–* With U. S. Coast and Geod. Surv, 80. F.A.A; Astron. and Astrophys. Soc; Pacific Astron. Soc; Soc. Astron. de Mex; Astron. Gesell. Meridian circle work; Cordoba Durchmusterung.—Meridian circle observations.

Tucker, Prof. Samuel A(uchmuty), 155 E. 61st St, New York, N. Y. *Chemistry.* New York, April 29, 69. Ph.B, Columbia, 95. Asst. physics, Col. Physicians and Surg, Columbia, 95–97, head demonstrator physics and chem, 97–98, tutor indust. chem, *Columbia,* 98–05, *adj. prof. electrochem, 05–* Chem. Soc; Soc. Chem. Indust; fel. London Chem. Soc. Electrochemistry; electric furnace; varnish.—Storage battery.

Tucker, Dr. Willis G(aylord), 166 Washington Ave, Albany, N. Y. *Chemistry.* Albany, Oct. 31, 49. M.D, Albany Med. Col, 70. *Prof. chem. and toxicol, Albany Med. Col, 76–, registrar Faculty, 82–; prof. chem, Albany Col. of Pharmacy, 81–, pres. of Faculty, 83–; director, Bur. Chem. N. Y. State Dept. of Health, 91–* Lecturer nat. science, St. Agnes Sch, Albany, 74–00; prof. chem, High Sch, Albany, 76–87; mem. Board Gov, Union Univ. Hon. Ph.G, Albany Col. Pharmacy, 82; Ph.D, Union, 82. F.A.A; Chem. Soc; fel. Am. Acad. Med; N. Y. State Med. Soc; N. Y. State Pharmaceut. Ass; fel. London Chem. Soc. Food and drug adulteration; water analysis; toxicology.

Tuckerman, Dr. Alfred, 342 W. 57th St, New York, N. Y. **Chemistry, Bibliography.* New York, Jan. 15, 48. A.B, Harvard, 70; Ph.D, Leipzig, 74. Asst, Astor Library, 76–80. F.A.A; Chem. Soc; Library Ass; N. Y. Acad.

Tuckerman, Dr. Frederick, Amherst, Mass. *Anatomy.* Greenfield, Mass, May 7, 57. B.S, Mass. Agr. Col. and Boston, 78; M.D, Harvard, 82; London and Berlin, 82–83; fellow, Clark, 89–90; Berlin, London and Heidelberg, 92–94; Ph.D, Heidelberg, 94. Lecturer anat. and physiol, Mass. Agr. Col, 83–86. Soc. Nat; Bost. Soc. Nat. Hist; Anat. Gesell. Anatomy, morphology and embryology of the gustatory organs in Vertebrata, chiefly in Mammalia.—Comparative anatomy of the tongue and organs of taste in Mammalia.

Tuckerman, L(ouis) B(ryant), Jr, 298 Central Ave, Cleveland, O. *Physics.* West Williamsfield, O, Sept. 26, 79. A.B, Western Reserve, 01; Nebraska, 01–02. *Asst. physics,* Ohio State, 02–04; *Berlin, 04–* M.A.A; Physical Soc. Spectrophotometry.

Tufts, Dr. F(rank) L(eo), Columbia University, New York, N. Y. **Physics.* Findlay, O, Jan. 16, 71. B.S, Antioch, 91; A.B, Harvard, 94; fellow, Columbia, 95–97, A.M, 96, Ph.D, 97. Instr. science, Antioch, 91–93, prof. physics and chem, 94–95; asst. *physics, Columbia,* 97–98, tutor, 98–03, instr, 03–05, *adj. prof, 05–* F.A.A; Physical Soc. Transmission of sound; sound waves in air; flicker photometry; conductivity of flame gases and vapors.—Effect of temperature on electrical conductivity of gases.

Tufts, Prof. James H(ayden), University of Chicago, Chicago, Ills. *Philosophy.* Monson, Mass, July 9, 62. A.B, Amherst, 84; B.D, Yale, 89; Berlin and Freiburg, 91–92; Ph.D, Freiburg, 92. Instr. math, Amherst, 85–87; philos. Michigan, 89–91; asst. prof, *Chicago,* 92–94, assoc. prof, 94–00, dean, Senior Colleges, 99–04, *prof. philos, 00–* LL.D, Amherst, 04. Psychol. Ass; Philos. Ass. Development of individuality and its influence upon philosophy; morality.

Tunis, Dr. Joseph P(rice), 1426 Pine St, Philadelphia, Pa. *Life insurance.* Philadelphia, Feb. 7, 66. Haverford, 82, 84; A.B, Pennsylvania, 86, M.D, 89. Asst. demonstrator anat, Pennsylvania, 91–98; surgeon, Methodist Epis. Hosp, 97–01. Ed, 'Int. Med. Mag,' 93; first lieut. and asst. surgeon, First Pa. Vol. Inf, 98. Ass. Anat; Phila. Co. Med. Soc; Phila. Col. Physicians; Pa. Hist. Soc.

Turneaure, Prof. F(rederick) E(ugene), 1015 University Ave, Madison, Wis. *Civil engineering.* Freeport, Ills, July 30, 66. C.E. Cornell, 89. Instr. civil eng, Washington (St. Louis), 90–92; *prof.* bridge and hydraulic eng, *Wisconsin,* 92–03, *bridge and sanitary eng. and dean, Col. of Mech. and Eng, 03–* Hon. D.Eng, Illinois, 05. M.A.A; Civil Eng; Eng. Educ; Soc. Testing Materials; West. Soc. Eng. Reinforced concrete; stresses in bridges under moving train loads.

Turner, Dr. B(enjamin) B(ernard), Storrs, Conn. *Physical chemistry.* Hongkong, China, Feb. 6, 71. Central Tech. Col, London, 88–92; B.S, London, 94; Ph.D, Göttingen, 99; Strasburg, 04. Lecturer chem, Borough Polytech. Inst, London, England, 92–97; asst. *chem,* Cornell, 00–01, 02–03; *asst. prof, Conn. Agr. Col, 03–* Acting asst. prof. chem, Missouri, 01–02. Chem. Soc; fel. London Chem. Soc. Dielectric constants.—Decomposition of ethyl bromid; mutual solubility of chloroform, alcohol and water.

Turner, Prof. H(enry) W(ard), Ladd Metals Company, Portland, Ore. **Petrography, Geology.* Silver Lake, Pa, Aug. 22, 57. Cornell, 74–76, 81; Leipzig, 79–80; B.S, Columbian, 95. Asst. entom, Cornell, 80; U. S. Dept. Agr, 82; asst. geologist, U. S. Geol. Surv, 83–95, geologist in charge of party, 95–01; consulting econ. geologist and mining engineer, San Francisco, 01–04; *manager, Marfa and Mariposa quicksilver mine, Terlingua, Tex, 04–* Geol. Soc; Min. Eng; Cal. Acad; cor. mem. Madrid Nat. Hist. Soc. Geology, especially petrography and ore deposits.—Nomenclature of igneous rocks; geological mapping and structure studies.

Tuttle, Dr. D(avid) K(itchell), 4216 Spruce St, Philadelphia, Pa. *Chemistry, Metallurgy.* Whippany, N. J, Sept. 19, 35. B.S, Harvard, 55; Ph.D, Göttingen, 57. Instr. practical chem, Virginia, 57–61; chemist, various industrial works, 61–86; *melter and refiner, U. S. Mint, 86–* Chem. Soc; Philos. Soc; Acad. Polit. and Social Sci; Franklin Inst. Industrial processes; treatment of gold and silver with their alloys.—Electrolytic refining of gold and silver.

Tuttle, Prof. Franklin E(lliott), State College, Pa. *Chemistry.* Hadley, Mass, June 17, 64. A.B, Amherst, 89; Ph.D, Göttingen, 93. Instr. chem. and miner, *Pa. State,* 89–93, asst. prof. chem, 93–04, *prof. quant. anal, 04–*

Twitchell, E(rnst), Wyoming, O. *Chemistry.* Cincinnati, O, Feb. 26, 63. B.S, Cincinnati, 86. *Chemist and factory manager, The Emery Candle Co, Ivorydale, O, 87–* F.A.A; Chem. Soc; Soc. Chem. Indust. Chemistry of the fats and fatty acids.

Twitchell, Prof. Mayville W(illiam), South Carolina College, Columbia, S. C. *Geology.* Washington, D. C, Oct. 14, 68. B.S, Columbian, 99, M.S, 00; student asst, Hopkins, 01–02, Ph.D, 05. Asst. *geol,* Columbian, 99–00, instr, 01–05; *prof, South Carolina, 05–* Asst. geologist, Md. Geol. Surv, 02– Nat. Geog. Soc; Wash. Geol. Soc; Baltimore Geog. Soc. Geology of Pleistocene deposits of Anne Arundel and Charles Counties, Md; Cenozoic Echinodermata of the United States.

Twitmyer, Dr. Edwin B(urket), University of Pennsylvania, Philadelphia, Pa. *Psychology.* McElhattan, Pa, Sept. 14, 73. Ph.B, Lafayette, 96, M.S, 99; Ph.D, Pennsylvania, 02. *Instr. psychol, Pennsylvania, 97–* Psychol. Ass. The patellar tendon reflex.

Tyler, Prof. A(nsel) A(ugustus), Bellevue College, Bellevue, Nebr. *Biology.* East Bridgewater, Pa, March 7, 69. A.B, Lafayette, 92, A.M, 95; Ph.D, Columbia, 97. Instr. biol, Union, 97–98; bot, Syracuse, 98–99; assoc. prof. biol, Arizona, 99–00; *prof.* science, *Bellevue,* 00–05, *nat. science, 05–* M.A.A; Soc. Nat; Nebr. Acad. Nature and origin of stipules.—Flora of Sarpy County, Nebr.

Tyler, Rev. Prof. Ch(arles) Mellen, 'The Oaks,' Ithaca, N. Y. *History and philosophy of religion, Christian ethics.* Limington, Me, 32. A.B, A.M, Yale, 55. Pastor, Congregational Church, Natick, Mass, 9 years; mem. Mass. legislature, 61–62; pastor, South Congregational Church, Chicago, 67–72; First Congregational Church, Ithaca, N. Y, 72–91; Sage prof. hist. and philos. of religion and Christian ethics, *Cornell,* 91–05, *emer. prof. hist. and philos. of religion and lecturer Christian ethics, 05–* Trustee, Cornell, 86–92. D.D, Yale, 91. Philos. Ass; Oriental Soc; Mil. Order Loyal Legion.

Tyler, Dr. H(arry) W(alter), Newton Center, Mass. **Mathematics.* Ipswich, Mass, April 16, 63. B.S, Mass. Inst. Tech, 84; Göttingen, 87–88; Ph.D, Erlangen, 89. Asst. *math, Mass. Inst. Tech,* 84–86, instr, 86–90, asst. prof, 90–92, assoc. prof, 92–93, *prof, 93–, head of dept, 02–* Sec'y Faculty, 89–90, 91– M.A.A; Math. Soc; Am. Acad; Boston Math. and Physical Club; Math. Verein. Determinants.

Tyler, Prof. John M(ason), Amherst, Mass. *Biology.* Amherst, May 18, 51. Amherst, 69–73; Göttingen, 76–78; Leipzig, 78–79. Teacher, Phillips Acad, 73–74; *prof. biol, Amherst, 79–* Hon. Ph.D, Colgate. Soc. Nat; Soc. Zool.

Tyrrell, J(oseph) B(urr), Dawson, Yukon Territory, or Ottawa, Ont, Can. *Geology.* Weston, Ont, Nov. 1, 58. Upper Canada, 73–76; A.M, Toronto, 89; B.S, Victoria (Ont.), 89. Geologist, Can. Geol. Surv, 81–99; *practising mining engineer, 99–* Back premium, Royal Geog. Soc. F.A.A; Geol. Soc; Min. Eng; Min. and Mech.

Eng; N. of England Min. and Mech. Eng; fel. London Geol. Soc; cor. mem. Royal Scottish Geog. Soc. Geology and geography of northern Canada.—Formation of placer deposits.

Tyson, Dr. James, 1506 Spruce St, Philadelphia, Pa. **Medicine.* Philadelphia, Oct. 26, 41. A.B, Haverford, 60, A.M, 64; M.D, Pennsylvania, 63. *Prof.* physiol. and micros, Pa. Col. Dental Surg, 70–78; gen. path. and morbid anat, *Pennsylvania,* 76–89, clin. med, 89–98, *med, 98–* Visiting physician, St. Joseph's Hosp, Phila, 71–72; Phila. Hosp, 72–90, 93–; dean, Med. Faculty, Pennsylvania, 88–92; visiting physician, Hosp, Univ. of Pa; Pa. Hosp; consulting physician, Rush Hosp; Kensington Hosp. for Women, 91. F.A.A; Am. Physicians; Am. Med. Ass; Philos. Soc; Phila. Co. Med. Soc; Phila. Col. Physicians. Medicine; pathology; microscopy.

Tyzzer, Dr. E(rnest) E(dward), 28 Lafayette St, Wakefield, Mass. *Pathology.* Wakefield, Mass, Aug. 30, 75. Ph.B, Brown, 97, A.M, 98; M.D, Harvard, 02, Bullard fellow, 02–03. Asst. path, *Harvard,* 03–05, *supt. cancer research, 05–* Protozoa in fishes; coccidium oviforme in the rabbit's liver; leucocytes of the circulating blood of the rabbit; leucocytosis of the rabbit; vaccinia.—Etiology of variola and vaccinia.

U

Udden, Prof. J(ohan) A(ugust), 1000 38th St, Rock Island, Ills. *Geology.* Lekåsa Parish, Sweden, March 19, 59. Augustana, 76–81; Minnesota, 86. Instr. nat. science and civics, Bethany (Kas.), 81–88; *prof. nat. hist. and geol, Augustana, 88–* Asst. state geologist, Ills, 92; special field asst, U. S. Geol. Surv, 93; special asst, Iowa Geol. Surv, 97–02; asst. geologist, Univ. of Tex. Mineral Surv, 03–04. Geol. Soc; Davenport Acad. Aerodynamical geology; glacial geology; general stratigraphy. —Mechanical composition of aqueous sediments; nature of drift erratics in the glacial deposits of the Mississippi valley; distribution of weather in the cyclones of North America; atmospheric sedimentation.

Uhle, Dr. (Friedrich) Max, Affiliated Colleges, San Francisco, Cal. *Ethnology, Archeology, Linguistics.* Dresden, Germany, March 25, 56. Göttingen, 76–77; Ph.D, Leipzig, 80. Asst, Royal Zool, Anthrop. and Ethnol. Mus, Dresden, 81–88; Royal Mus. of Völkerk, Berlin, 88–91; Ethnol. Exped. for German Govt. to South America, 92–95; for Univ. of Pa, 95–97, in Dept. Archeol, 97–98; exped. for Univ. of Cal. to Peru, 99–01, *lecturer* anthrop, *California,* 01–02, *Peruvian archeol, 02–,* Exped. to Peru, 03–05. Silver medal, Columbian Exhib, Madrid, 92. Fel. Ethnol. Soc; hon. mem. Davenport Acad; Geog. Soc. of La Paz, Sucre (Bolivia), and Lima; cor. mem. Vienna Anthrop. Gesell. Origin of South American civilizations; Malayan ethnology.—Ruins of Tiahuanac; Pachacamac; report on second South American expedition.

Uhler, Dr. H(orace) S(cudder), Johns Hopkins University, Baltimore, Md. *Physics.* Baltimore, Aug. 5, 72. A.B, Hopkins, 94, fellow, 04–05, Ph.D, 05. Lab. asst. physics, Hopkins, 94–96; instr, Acad, Northwestern, 96–97; director, Lab, University Sch, Baltimore, 97–02; *asst. physical chem, Hopkins, 05–* Physical Soc. Absorption spectra of the anilin dyes.—The formation of hydrates.

Uhler, Dr. P(hilip) R(eese), 254 W. Hoffman St, Baltimore, Md. *Biology, Geology.* Baltimore, June 3, 35. Baltimore Col. Asst. librarian, Peabody Inst, Baltimore, 61–64; asst. to Prof. L. Agassiz as entomologist and librarian, Mus. Comp. Zool, Harvard, 64–67; librarian, *Peabody Inst,* 72–90, *provost, 91–* Entomologist, U. S. Geol. Surv. of Territories, Hayden, 72. LL.D, N. Y. Univ, 00; hon. B.S, Harvard; M.S.A, London, 01. F.A.A; Entom. Soc; Wash. Acad; Phila. Acad; Boston Soc. Nat. Hist; Md. Acad. (curator, sec'y, v. pres, and pres, 87–); Peabody Acad, Salem, Mass; Chicago Acad; Can. Entom. Soc. Library catalogue; Neuroptera Boreali Americana; the Albirupean formation.—Heteroptera of North America; geology of the Pleistocene; McHenry formation of Maryland; Niagara period and its associate in Maryland.

Ullmann, Prof. H(arry) M(aas), 148 S. Main St, Bethlehem, Pa. *Chemistry.* Springfield, Mo, April 14, 68. A.B, Hopkins, 89, Ph.D, 92; Munich and Paris, 92–94. Instr. *quant. and indust. anal, Lehigh,* 94–04, *asst. prof, 04–* M.A.A; Chem. Soc; Chem. Gesell. P. sulphamin benzoic acid; acetins; underburned cement.—Setting of cement.

Ulrey, Prof. Albert B(rennus), 1435 W. 23d St, Los Angeles, Cal. *Biology.* North Manchester, Ind, Dec. 31, 60. Grad, Ind. State Nor. Sch, 85; Rush Med. Col, 00–01; Woods Hole, 92; A.B, Indiana, 92, A.M, 94. Instr. zool, Indiana, 92–94; *prof. biol,* Manchester, 95–99; *Southern California, 01–* Prof. biol, Summer Sch. of Biol, Warsaw, Ind, 95; instr. histogenesis, Biol. Sta, Indiana, summers, 96, 97. M.A.A; S. Cal. Acad. (chairman, Biol. Sect.) South American Characinidae; Embiotocidae; embryology of Paragordius varius Leidy.

Ulrich, Dr. E(dward) O(scar), 2421 First St, N. W, Washington, D. C. *Paleontology, Geology.* Cincinnati, O, Feb. 1, 57. Pulte and Ohio Med. Colleges, 76–78; A.M, German Wallace, 86, Ph.D, 92. Curator, Cincinnati Soc. Nat. Hist, 77–79; paleontologist, Geol. Surveys of Ills, Minn. and Ohio, 85–89, 91–97; asst. geologist, Ky. Geol. Surv, 89–90; *geologist, U. S. Geol. Surv, 97–* Supt. mines, Boulder Co, Colo, 80–83; assoc. ed, 'Am. Geologist,' 88–97. Geol. Soc. Stratigraphy; invertebrate paleontology. —Paleogeography.

Underhill, Dr. Frank P(ell), 115 York St, New Haven, Conn. *Physiological chemistry, Physiology.* Brooklyn, N. Y, Dec. 21, 77. Ph.B, Yale, 00, Ph.D, 03. Lab. asst, *Yale,* 00–02, asst. *physiol. chem,* 02–03, *instr, 03–* Physiol. Soc.

Physiological action of proteoses; physiological action of nucleic acid; proteolytic action of papain; precursors of urinary indican; the rôle of pancreas and other organs in diabetes and related conditions; methylene blue and its behavior in the animal organism; paths of absorption from the liver.—Influence of dextrose on metabolism; mechanism of salt glycosuria.

Underwood, Prof. L(ucien) M(arcus), N. Y. Botanical Garden, Bronx Park, New York, N. Y. **Botany.* New Woodstock, N. Y, Oct. 26, 53. Ph.B, Syracuse, 77, Ph.D, 79; Morgan fellow, Harvard, 90–91. Instr. biol. and geol, Syracuse, 83–86, *prof*, 86–91; bot, De Pauw, 91–95; biol, Ala. Polytech, 95–96; *bot, Columbia, 96–* Chairman, Board Scientific Directors, N. Y. Bot. Garden, 01– Delegate, Int. Cong. Bot, Genoa, 92; Vienna, 05. F.A.A. (v. pres, 94); Bot. Soc. (pres, 99–00); Soc. Plant Morph. and Physiol; Mycol. Soc; Torrey Bot. Club (ed, 98–02); fel. N. Y. Acad; cor. mem. Phila. Acad. The ferns, Hepaticae and fungi of the American flora.—The ferns of all North America from the arctic region to the Isthmus of Panama.

Updegraff, Prof. Milton, U. S. Naval Academy, Annapolis, Md. **Astronomy.* Decorah, Ia, Feb. 20, 61. B.S, B.C.E, Wisconsin, 84, M.S, 86. Asst, U. S. Coast and Geod. Surv, 82, 83; asst. astronomer, Washburn Observatory, Wisconsin, 84–87; astronomer, Argentine Nat. Observatory, Cordoba, 87–90; prof. astron. and director, Laws Observatory, Missouri, 90–99; *prof. math, U. S. N, 99–* F.A.A; Astron. and Astrophys. Soc; Wash. Philos. Soc; St. Louis Acad; Astron. Gesell. Errors of meridian circles; orbits of comets; astronomical time keeping; star places.—Errors of 6-inch transit circle and clocks of U. S. Naval Observatory; observations of fixed stars.

Upham, Warren, 655 Central Park, St. Paul, Minn. **Geology.* Amherst, N. H, March 8, 50. A.B, Dartmouth, 71. Asst, N. H. Geol. Surv, 74–78; Minn. Geol. Surv, 79–85; U. S. Geol. Surv, 85–93; Minn. Geol. Surv, 93–94; librarian, Western Reserve Hist. Soc, 95; *sec'y and librarian, Minn. Hist. Soc, St. Paul, 95–* Hon. A.M, Dartmouth, 94. F.A.A. (sec'y, E, 98); Geol. Soc; Minn. Acad; Boston Soc. Nat. Hist; London Victoria Inst. Glacial geology; the glacial lake Agassiz; glacial lakes; moraines; till; eskers; kames; causes of the ice age; climatology; antiquity of mankind and its relation to the ice age.

Upton, Clifford B(rewster), Teachers College, Columbia University, New York, N. Y. *Mathematics.* Detroit, Mich, May 10, 77. Grad, Mich. State Nor. Col, 98; A.B, Michigan, 02; Columbia, 03–05. *Instr. math,* secondary sch, 98–00; *Horace Mann Sch, Columbia, 02–, asst, Teachers Col, 04–, lecturer, Exten. Dept, 05–* Math. Soc; Ass. Teachers Math. of Middle States and Md. The teaching of mathematics in primary and secondary schools.

Upton, Prof. Winslow, Ladd Observatory, Providence, R. I. *Astronomy.* Salem, Mass, Oct. 12, 53. A.B, Brown, 75; A.M, Cincinnati, 77. Asst, Harvard Col. Observatory, 77–79; asst. engineer, U. S. Lake Surv, 79–80; computer, U. S. Naval Observatory, 80–81; computer and asst. prof. meteorol, U. S. Signal Service, 81–83; *prof. astron, Brown, 83–* Dean, Brown, Jan, 00–June, 01. F.A.A. (sec'y, A, 92, 98); Astron. and Astrophys. Soc; Meteor. Gesell.

Urban, Prof. Wilbur M(arshall), 74 Vernon St, Hartford, Conn. *Psychology.* Philadelphia, Pa, March 27, 73. A.B, Princeton, 95; Ph.D, Leipzig, 97. Reader in philos, Princeton, 97–98; *prof.* philos. and psychol, Ursinus, 98–02; *philos, Trinity (Conn.), 02–* Asst. ed, 'Dict. Philos. and Psychol.' Psychol. Ass; Philos. Ass. The psychology of feelings and emotions, with special reference to the psychology of value.—The memory of emotions in connection with esthetic creation and appreciation.

V

Vail, Miss Anna Murray, 29 Washington Square, New York, N. Y. *Botany.* New York, Jan. 7, 63. Private instruction, Europe; student under Dr. N. L. Britton. *Librarian, N. Y. Bot. Garden, 00–* M.A.A; Torrey Bot. Club (assoc. ed, 'Bul.'). Taxonomy of Leguminosae and Asclepiadaceae.—Taxonomy of Asclepiadaceae; phylogeny.

Vanderpoel, Dr. Frank, 153 Center St, Orange, N. J. *Chemistry.* Newark, N. J, Nov. 20, 53. E.M, Columbia, 75, Ph.D, 94. With E. B. Benjamin, New York, 75–78; The Celluloid Co, 78–03. M.A.A; Chem. Soc; Soc. Chem. Indust. Nitrogen compounds of cellulose; sulphur and nitrogen acids.

Van der Vries, Dr. John N(icholas), 925 Kentucky St, Lawrence, Kas. *Mathematics.* Kalamazoo, Mich, May 23, 76. A.B, Hope, 96, A.M, 99; fellow, Clark, 98–01, Ph.D, 01. *Asst. prof. math, Kansas, 01–* M.A.A; Math. Soc. Theory of twisted curves and surfaces; monoids.—Steinerian surfaces and monoids.

Van Dyck, Prof. F(rancis) C(uyler), 84 College Ave, New Brunswick, N. J. *Experimental physics.* Coxsackie, N. Y, June 3, 44. A.M, Rutgers; Ph.D, Union. Tutor, *Rutgers,* 67–70, *prof.* anal. chem, 70–80, *physics and exp. mech, 80–* F.A.A; N. J. Micros. Soc; Brooklyn Inst.

Van Dyke, Dr. Edwin C(ooper), 2112 Steiner St, San Francisco, Cal. *Entomology, Medicine.* Oakland, Cal, April 7, 69. B.S, California, 93; M.D, Cooper Med. Col, 95. Asst. surgeon, Nat. Home for Disabled Volunteer Soldiers, Santa Monica, Cal, 96–98; rès. physician, St. Luke's Hosp, San Francisco, 98–00. Curator, Dept. Entom, Cal. Acad. Sciences. Am. Med. Ass; Pacific Coast Entom. Soc; Cal. Acad; cor. mem. N. Y. Entom. Soc. Systematic Coleoptera; geographical distribution of insects.

Van Giesen, Dr. Ira, formerly New York, N. Y. **Pathology.* Formerly instr. path, Columbia,

and director, N. Y. Path. Inst. Neurology; psychiatry.

Van Hise, Pres. C(harles) R(ichard), 772 Langdon St, Madison, Wis. **Geology.* Fulton, Wis, May 29, 57. B.M.E, Wisconsin, 79, B.S, 80, M.S, 82, Ph.D, 92. Instr. metal, Wisconsin, 79–83, asst. prof, 83–86, prof, 86–88, miner. and petrol, 89–90, archean and applied geol, 90–92, geol, 92–03; non-res. prof. structural geol, Chicago, 92–03; *pres, Wisconsin, 03–* Asst, Wis. Geol. Surv, 81–82; asst. geologist, U. S. Geol. Surv, 83–88, geologist in charge Lake Superior Div, 88–00, pre-Cambrian and metamorphic geol, 00–; consulting geologist, Wis. Geol. and Nat. Hist. Surv, 97–03, pres, Board of Commissioners, 03–; ed, 'Am. Jour. Geol.' LL.D, Chicago, 03; Yale, 04. Nat. Acad; F.A.A. (v. pres, 01); Geol. Soc; Min. Eng; Nat. Geog. Soc; Wash. Acad; Wash. Philos. Soc; N. Y. Acad; Wis. Acad. (pres, 93–96); Royal Swedish Acad; Christiana Sci. Soc. Structural geology; pre-Cambrian geology; metamorphism; ore deposits.

Van Horn, Prof. Frank R(obertson), 110 Cornell St, Cleveland, O. *Geology, Mineralogy.* Johnsonburg, N. J, Feb. 7, 72. B.S, Rutgers, 92, M.S, 93; Ph.D, Heidelberg, 97. Asst. miner, Rutgers, 92–93; instr. *geol. and miner, Case,* 97–99, asst. prof, 99–02, *prof, 02–* Geol. Soc. Petrographical geology.

Van Ingen, Gilbert, Princeton University, Princeton, N. J. *Geology, Paleontology.* Poughkeepsie, N. Y, July 30, 69. Cornell, 86–88; Yale, 92–93. Asst. geologist, U. S. Geol. Surv, 89–91; asst. paleont, Cornell, 91–92; Columbia, 93–95, curator geol, 95–01; special asst. to N. Y. state paleontologist, 01–03; *asst. geol. and curator invert. paleont, Princeton, 03–* Ed, Departments of Geol. and Paleont, 'New Int. Encyclopedia,' 01–02. M.A.A; Geol. Soc; fel. N. Y. Acad. (ed, 97–01); Phila. Acad. Paleontology and stratigraphy of Paleozoic rocks; stratigraphy of Potsdam sandstone; stratigraphy and tectonics at Rondout, N. Y; paleontology of Siluric limestones of Arkansas and of the Appalachian region; petrology of sedimentary rocks.

Van Name, Dr. Willard G(ibbs), 121 High St, New Haven, Conn. *Biology.* New Haven, April 18, 72. A.B, Yale, 94, Ph.D, 98; Berlin, 99–00. Lab. asst. physiol. chem, Yale, 94–95, asst. biol, 97–99, histol. and embryol, Med. Sch, 02–03. M.A.A; Soc. Nat; assoc. Ornith. Union. Chemical composition of gelatin; embryology of the planarians; ascidians of the Bermuda Islands. —Ascidians of the New England coast.

Van Ornum, Prof. J(ohn) L(ane), Washington University, St. Louis, Mo. *Civil engineering.* Hartford, Vt, May 14, 64. B.S, Wisconsin, 88, C.E, 91. Chief topographer, Mex. Boundary Surv, 92–94; major, Third U. S. Vol. Engineers, 98–99; *prof. civil eng, Washington (St. Louis), 99–* On munic, railway and govt. eng. works about six years. F.A.A; Civil Eng; Eng. Educ; Soc. Testing Materials; St. Louis Eng. Club (past pres.); St. Louis Acad; Int. Ass. Testing Materials. Improved field methods of surveying; cements; concrete and concrete-steel construction; water and sewage purification.

Van Slyke, Dr. L(ucius) L(incoln), Geneva, N. Y. *Agricultural chemistry.* Centerville, N. Y, Jan. 6, 59. A.B, Michigan, 79, A.M, 81, Ph.D, 82; fellow by courtesy, Hopkins, 89–90. Instr. anal. chem, Michigan, 82–85; prof. chem, Oahu Col, and govt. chemist, Honolulu, 85–88; lecturer gen. chem, Michigan, 88–89; *chemist, N. Y. Agr. Exp. Sta, 90–* F.A.A; Chem. Soc; Ass. Off. Agr. Chemists. Chemistry of milk; chemistry of cheese-making and of cheese-ripening; methods of separation of nitrogen compounds of milk and cheese; isolation and study of proteids formed during the ripening of cheese; casein and paracasein.—The chemistry of cider vinegar and the behavior of malic acid in apple juice during alcoholic and acetic formation; the proteids of butter.

Van Velzer, Prof. C(harles) A(mbrose), 134 W. Gorham St, Madison, Wis. *Mathematics.* Baldwinsville, N. Y, Sept. 2, 51. B.S, Cornell, 76; fellow, Hopkins, 78–81; Ph.D, Hillsdale, 83. Instr. *math,* Cornell, 76–77; *Wisconsin,* 81–83, asst. prof, 83–85, *prof, 85–* Math. Soc; Wis. Acad; London Math. Soc. Compound determinants.

Van Vleck, Prof. E(dward) B(urr), 151 High St, Middletown, Conn. **Mathematics.* Middletown, June 7, 63. A.B, Wesleyan, 84; Hopkins, 85–87, fellow, 86–87; Göttingen, 90–93, Ph.D, 93. Tutor *math,* Wesleyan, 87–90; instr, Wisconsin, 93–95; asst. prof, *Wesleyan,* 95–98, *prof, 98–* Math. Soc. (ed, 'Trans.'); Math. Verein. Theory of functions and differential equations.

Vaughan, Dr. T(homas) Wayland, Cosmos Club, Washington, D. C. **Geology, Paleontology.* Jonesville, Tex, Sept. 20, 70. B.S, Tulane, 89; A.B, Harvard, 93, A.M, 94, Ph.D, 03. Instr. chem. and physics, Mt. Lebanon Col, La, 89–92; asst, La. Geol. Surv, 92; asst. geologist, *U. S. Geol. Surv,* 94–02, geologist, 02–03, *paleontologist, 03–* Geol. Soc; Wash. Acad; Wash. Geol, Biol. and Anthrop. Societies. Stratigraphy and paleontology of the Tertiary formations of the southern United States; post-Paleozoic fossil and recent corals of northern and tropical America; Cretaceous formations of Texas, Oklahoma, etc; general reconnaissance of Cuba.—Middle and later Tertiary corals of North America, including the West Indies; special paleontologic problems of the Tertiaries of southern United States and the West Indies; recent corals of the Hawaiian Islands, the South Pacific, the eastern coast of Africa, etc.

Vaughan, Dr. Victor C(larence), Ann Arbor, Mich. **Bacteriology, Physiological chemistry.* Randolph Co, Mo, Oct. 27, 51. B.S, Mt. Pleasant, 72; M.S, Michigan, 75, Ph.D, 76, M.D, 78. Prof. Latin, Mt. Pleasant, 72–74; instr, physiol. chem, *Michigan,* 76–80, lecturer, 80–84, *prof. hygiene and physiol. chem, 84–* Mem. Mich. State Board Health, 83–94, 01–; major

and surgeon, U. S. Vols, and mem. Typhoid Commission, 98–99. Hon. Sc.D, Western Univ. of Pa; LL.D, Michigan, 00; M.D, Illinois. Ass. Path. and Bact; Soc. Bact; Physiol. Soc; Am. Physicians; Soc. Exp. Biol. and Med; N. Y. Acad; Chem. Gesell; hon. mem. French and Hungarian Societies of Hygiene. The bacterial toxins; food poisoning; the nucleins; tuberculosis; medicolegal subjects.—Bacterial toxins.

Vaughn, Prof. W(illia)m J(ames), Vanderbilt University, Nashville, Tenn. *Mathematics, Astronomy.* Wilcox Co, Ala, Feb. 15, 34. A.B, Alabama, 57, A.M, 59. Tutor math, Alabama, 57–60, asst. prof. Latin and Greek, 60–63, prof. math, 63–65; principal, Sch. for Girls, Tuskaloosa, Ala, 65–66; Summerfield, Ala, 66–71; prof. physics and astron, Alabama, 71–73; pres, Tenn. Female Col, 73–78; *prof. math,* Alabama, 78–82; *Vanderbilt, 82–, astron, 94–* LL.D, Mississippi, 83. Math. Soc; Am. Hist. Ass; S. Hist. Soc. Mathematics and astronomy.

Vaux, George, Jr, 404 Girard Building, Philadelphia, Pa. *Mineralogy, Glaciology.* Philadelphia, Dec. 18, 63. B.S, Haverford, 84; LL.B, Pennsylvania, 87. M.A.A; Philos. Soc; Phila. Acad. (treas.). Glacial studies in British Columbia.

Veatch, A(rthur) C(lifford), U. S. Geological Survey, Washington, D. C. *Geology.* Evansville, Ind, Oct. 26, 78. Indiana, 96, 98; Cornell, 98, 00–01; Wisconsin, 05. Teacher math. and physical geog, High Sch, Rockport, Ind, 96–98; asst. state geologist, La, 98–00; asst. in charge of stratig. and areal geol, Summer Sch, Cornell, 00–01, asst. stratig. geol, 01; consulting geologist, Houston Oil Co, 01–02; prof. geol, Louisiana, and geologist, La. Geol. Surv, 02; field asst, *U. S. Geol. Surv,* 02–04, *asst. geologist, 04–* Mem. Indiana Univ. Geol. Surv, 97; Cornell Geol. Surv, 98. Bronze medal, Charleston Expos. M.A.A; Nat. Geog. Soc; Wash. Geol. Soc. Salt deposits of Louisiana; stratigraphy of northern Louisiana, southern Arkansas and Long Island; fluctuations of water-level in wells.—Stratigraphy of southwestern Wyoming with special reference to coal and oil.

Veblen, Prof. A(ndrew) A(nderson), Iowa City, Ia. *Physics.* Ozaukee Co, Wis, Sept. 24, 48. A.B, Carleton, 77, A.M, 80; Hopkins, 81–83. Instr. English and math, Luther, 77–81; instr. and asst. prof. math, Iowa, 83–86, asst. prof. physics, 86–89, prof, 89–05. M.A.A; Iowa Acad. (pres, 01). Elasticity of certain solids; viscosity of liquids; mechanics of wave motion.—Viscosity of gases; behavior of rapidly moving air.

Veblen, Dr. Oswald, 23 Madison St, Princeton, N. J. *Mathematics.* Decorah, Ia, June 24, 80. A.B, Iowa, 98; A.B, Harvard, 00; Ph.D, Chicago, 03. Lab. asst. physics, Iowa, 98–99; assoc. *math,* Chicago, 03–05; *preceptor, Princeton, 05–* Math. Soc; Circolo Mat. di Palermo. Foundations of geometry.—Pure geometrical formulation of problems in analysis situs.

Vedder, Dr. Edward B(right), Care Surgeon General, Manila, P. I. *Medicine.* New York, N. Y, June 28, 78. Ph.B, Rochester, 98; M.D, Pennsylvania, 02, Scott fellow, 02–03, A.M, 03. Research student, Rockefeller Inst. for Med. Research, 01; *first lieut. asst. surgeon, U. S. A, Philippine Islands, 03–* Bacteriology; pathology.

Veeder, Dr. M(ajor) A(lbert), Cor. Broad and Queen Sts, Lyons, N. Y. *Sanitary science, Solar physics, Geophysics.* Ashtabula, O, Nov. 10, 48. A.B, Union, 70, A.M, 71; Leipzig, 78–79; M.D, Buffalo, 83. Principal, Ives Sem, Antwerp, N. Y, 76–78. Health officer, Lyons, 87– Pub. Health Ass; Micros. Soc; N. Y. State Med. Soc; London Soc. Arts. Sanitation of typhoid fever, diphtheria and tuberculosis; localization of solar and terrestrial electromagnetic conditions; ice action in the basin of the Great Lakes of North America; sense-perception.—Open air treatment of consumption; rudimentary forms of sense-perception.

Venable, Dr. F(rancis) P(reston), Chapel Hill, N. C. **Chemistry.* Prince Edward Co, Va, Nov. 17, 56. Virginia, 74–78; Bonn, 79–80; Ph.D, Göttingen, 81; Berlin, 89. Prof. chem, *North Carolina,* 81–00, *pres, 00–* Hon. Sc.D, Lafayette, 04. F.A.A. (sec'y, 96, v, pres, 99); Chem. Soc. (pres, 05); Philos. Soc; fel. London Chem. Soc; Chem. Gesell. Zirconium and its compounds; heptane and its derivatives; qualitative analysis; inorganic chemistry; history of chemistry; development of periodic law; study of the atom.

Verhoeff, Dr. F(rederick) H(erman), 233 Charles St, Boston, Mass. *Ophthalmology.* Louisville, Ky, July 9, 74. Ph.B, Yale, 95; M.D, Hopkins, 99; A.M, Harvard, 02. Asst. surgeon, Baltimore Eye, Ear and Throat Charity Hosp, 00–01; asst. path, Harvard, 01–03; *pathologist, Mass. Charitable Eye and Ear Infirmary, 01–; asst. ophthal. surgeon, Carney Hosp, 02–* Ass. Path. and Bact; Ophthal. Soc; Am. Med. Ass; Mass. Med. Soc; New Eng. Ophthal. Soc; Boston Soc. Med. Sci. Pathological anatomy of the eye; physiological optics.—Diseases of the eye.

Verrill, Prof. A(ddison) E(mory), 86 Whalley Ave, New Haven, Conn. **Zoology.* Greenwood, Me, Feb. 9, 39. B.S, Harvard, 62; A.M, Yale, 67. Asst, Mus. Comp. Zool, Harvard, 60–64; *prof. zool. and curator, Zool. Dept, Peabody Mus, Yale, 64–* Prof. entom. and comp. anat, Wisconsin, 67–70; assoc. ed, 'Am. Jour. Science,' 69–; instr. geol, Yale, 70–94; asst. in charge marine invert. zool, U. S. Fish Commission, 71–87. Nat. Acad; F.A.A; Soc. Nat; Soc. Zool; Am. Acad; Conn. Acad. (pres.); Phila. Acad; Wis. Acad; Boston Soc. Nat. Hist. (curator, 64–74); Essex Inst; Soc. zool. de France. Marine invertebrate zoology, especially Anthozoa, echinoderms, annelids, nemerteans, planarians, Mollusca, tunicates and Bryozoa; deep-sea zoology in general.—Invertebrates of southern New England; general report on the natural history, productions, geology, early history, zoology, etc, of the Bermuda Islands; West Indian and

Brazilian corals and echinoderms; echinoderms of the western Atlantic and of Alaska; alcyonaria of the Blake Expedition; Mollusca of the northeast American coast; deep-sea Mollusca.

Very, Prof. F(rank) W, Westwood, Mass. **Astrophysics, Geology, Meteorology.* Salem, Mass, Feb. 12, 52. B.S, Mass. Inst. Tech, 73. Astronomer, Allegheny Observatory, 78–95; adj. prof. astron. and instr. geol, Western Univ. of Pa, 90–95; acting director, Ladd Observatory, and prof. astron. (pro tem.), Brown, 96–97; special agent, U. S. Weather Bur, 00; Smithsonian Inst, 02. Prize, Utrecht Soc. of Arts and Sciences. Astron. and Astrophys. Soc; Boston Soc. Arts. Radiation (moon, sun, rock salt, ice, glass, air, Welsbach light); absorption of radiation by air, water vapor, solids and solar atmosphere; variation of solar radiation; cause of aurora; solar constant; photometry of eclipse and of spectrum; mechanism of hail storms; theory of new stars; parallax of Nova Persei; cause of nebulosity of Nova Persei; scheme for microchemical analysis; height and velocity of migrating birds; phosphorescence; sun-spots; upheld surface forms and ancient river terraces of the lower Allegheny valley; observations of the terminal moraine in New York; etc.—Stellar evolution.

Vickery, Dr. Herman F(rank), 263 Beacon St, Boston, Mass. *Medicine.* Rochester, N. Y, Aug. 20, 56. A.B, Harvard, 78, M.D, 82; Leipzig and Vienna, 82–83. Asst. *clin. med, Harvard, 84–90, instr, 90–; visiting physician, Mass. Gen. Hosp, 98–* Am. Physicians; Mass. Med. Soc. (councilor); Boston Soc. Med. Sci; Boston Soc. Med. Improv; Boylston Med. Soc. (pres, 87–88). Internal medicine.

Vining, E(dward) P(ayson), 3447 Clay St, San Francisco, Cal. *Comparative philology.* Belchertown, Mass, Jan. 14, 47. High Sch, Buffalo. Gen. freight traffic manager, Union Pacific R. R, 71–83; commissioner, Western Trunk Line Ass, 84–87; gen. traffic manager, N. Y. and New England R. R, 88–89; asst. gen. manager, St. L. and S. F. R. R, 90; commissioner, Transcont. R. R. Ass, 91–93; gen. manager, Market St. Ry. Co, San Francisco, 94–02. Hon. A.M, Yale, (about) 86. F.A.A; Oriental Soc. Railroads; philology; early American history; text and translation of the Bible; Shakespeare.—The precise meaning of the Greek words in the original text of the New Testament.

Vogdes, Gen. A(nthony) W(ayne), U. S. A, San Diego, Cal. *Geology, Paleontology, Military geography.* West Point, N. Y, April 23, 43. F.A.A; Geol. Soc; Cal. Acad; Phila. Acad; Ga. Acad; Chicago Acad. Fossil Crustacea.—Bibliography relating to geology, paleontology and mineral resources of California, including the maps of the state.

Volk, Ernest, 817 S. Clinton Ave, Trenton, N. J. *Archeology, Botany.* Waldkirch, Germany, Aug. 25, 45. Under Prof. F. W. Putnam, Harvard. In charge of explorations in Delaware Valley, under Prof. F. W. Putnam, 89; Little Miami Valley for Peabody Mus, 90; under Dr. C. C. Abbott for Univ. of Pa, 90; Delaware Valley under Prof. F. W. Putnam for Columbian Expos, 91–93; Am. Mus. Nat. Hist, N. Y, 94–03; Univ. of Cal, 04; with Field Columbian Mus, Chicago, 04. Medal and two diplomas, Columbian Expos, 93. M.A.A; Trenton Nat. Hist. Soc; Int. Ass. des Americanistes. Anthropology.—Early man in the Delaware Valley.

Volney, Dr. C(arl) W(alter), Keyport, N. J. *Natural science, Chemistry.* Brandenburg, Prussia, Sept. 19, 38. Ph.D, Berlin, 63. *Manufacturer.* Chem. Soc; Electrochem. Soc; Soc. Chem. Indust; Torrey Bot. Club; Chem. Gesell; Chem. Verein; Bunsen Gesell. Explosive substances; nitrates and nitric acid; decompositions.—Formation of nitric acid; composition of cellulose nitrates; composition and reaction of nitric-sulphuric acid on organic substances.

von Nardroff, Dr. E(rnest) R(obert), 397 Madison St, Brooklyn, N. Y. *Physics.* Brooklyn, May 12, 64. E.M, Columbia, 86. Instr. physics, Barnard, Columbia, 91–97; *head, Science Dept, Erasmus Hall High Sch, Brooklyn, 97–* Lecturer physics, Evening High Schools, Brooklyn, 87–98. Hon. Sc.D, St. Lawrence, 03. F.A.A; Physical Soc; N. Y. Acad. Diffraction of light; color apparatus; inaudible sound waves; new interferometer method for measuring refractive index of thin parallel plates singly and doubly refracting.—Analysis and velocity of inaudible sound waves.

Voorhees, Prof. E(dward) B(urnett), New Brunswick, N. J. *Agricultural chemistry, Agronomy.* Mine Brook, N. J, June 22, 56. A.B, Rutgers, 81, A.M, 84; Sc.D, Vermont, 00. Asst. chemist, Wesleyan, 81–82; N. J. Agr. Exp. Sta, 82–88, chemist, 88–92; *prof. agr, Rutgers, 90–; director, N. J. Agr. Exp. Sta, 92–* V. pres, N. J. State Board of Agr, 93–01, pres, 01– Nichols medal, Chem. Soc, 03. Soc. Prom. Agr. Sci; Chem. Soc; Ass. Off. Agr. Chemists (pres, 94); Ass. Agr. Col. (sec'y and treas, 97–04, pres, 04–05); Forestry Ass; N. J. Micros. Soc; N. J. Hist. Soc. Agricultural chemistry; agronomy; fertilizers.

Voorhees, L(ouis) A(ugustus), 111 Carroll Place, New Brunswick, N. J. **Agricultural chemistry.* New Brunswick, March 6, 65. A.B, Rutgers, 85, A.M, 88. Asst. chemist, *N. J. Agr. Exp. Sta,* 87–96, *chief chemist, 96–* Chem. Soc; Electrochem. Soc; Soc. Chem. Indust. Agricultural chemistry.

Voris, Prof. Floyd T(homas), St. Paul, Minn. *Physics.* Arcadia, Ia, 72. B.S, Highland Park, 93; McCormick Theol. Sem, 93–96; A.M, Columbia, 02. Pastor, Buffalo, Minn, 96; instr, instr, Nor. Dept, Buena Vista, 98, prof. physics and chem, 99–04; *instr. geol, Macalister, 04–* M.A.A. Absorption of light by metallic surfaces.

Vosburgh, Dr. Arthur S(eymour), 40 West 88th St, New York, N. Y. *Anatomy.* New York, July 1, 68. A.B, Columbia, 90, M.D, 93. House surgeon, St. Luke's Hosp, 94–96; asst. surgeon, Vanderbilt Clinic, 96–01; *asst. demonstrator anat, Columbia, 97–* Ass. Anat; N. Y. Co. Med. Soc.

W

Waddell, Dr. John, School of Mining, Kingston, Ont, Can. *Chemistry.* Pictou, N. S, Sept. 19, 58. A.B, Dalhousie, 77; B.S, London, 82; Ph.D, Heidelberg, 84; Sc.D, Edinburgh, 86. Asst. chem, Edinburgh, 84–86; prof. science, Royal Mil. Col, Can, 86–97; *asst. prof. chem, Sch. of Mining, Kingston, 99–* Chem. Soc. Atomic weight of tungsten; physical chemistry.

Waddell, Dr. J(ohn) A(lexander) L(ow), 2708 Forest Ave, Kansas City, Mo. *Civil engineering.* Port Hope, Ont, Jan. 15, 54. C.E, Rensselaer, 75; B.A.S, M.E, McGill, 82, Sc.D, 04. Draftsman, Marine Dept, Dominion Govt; Can. Pac. Railway, 75–78; asst. prof. mech, Rensselaer, 78–80; chief engineer, Raymond and Campbell, bridge builders, Council Bluffs, Ia, 81–82; prof. civil eng, Imp. Univ. Japan, Tokio, 82–86; *consulting engineer, 87–* Knight Commander, Japanese Order of the Rising Sun, 88; LL.D, Missouri, 04. Civil Eng; Eng. Educ; Rensselaer Soc. Eng; British Inst. Civil Eng; Soc. Ing. civile de France; hon. mem. Japanese Eng. Soc. Railroading; bridges; engineering education; foundations.—Nickel steel for bridges.

Wadsworth, Dr. Augustus, 112 W. 55th St, New York, N. Y. *Infectious diseases.* Brooklyn, N. Y, Oct. 25, 72. B.S, Mass. Inst. Tech, 93; M.D, Columbia, 96; St. Luke's Hosp, 97–99; Alumni fellow, Columbia, 99–05, Alonzo Clark scholar, 05– Asst. and later *instr. bacter. and hygiene, Columbia, 99–* Asst. physician, Outpatient Dept, Roosevelt Hosp. Ass. Path. and Bact; Soc. Exp. Biol. and Med; N. Y. Path. Soc. Puerperal infection; etiology of acute pneumonitis; pneumococcus agglutination; mouth disinfection in the prophylaxis and treatment of pneumonia.

Wadsworth, F(rank) L(awton) O(lcott), Morgantown, W. Va. **Astronomy, Astrophysics, Geophysics, Engineering.* Wellington, O, Oct. 21, 67. E.M, Ohio State, 88, B.S, M.E, 89; Clark, 89–90. Asst. physics, Ohio State, 89; Clark, 90–92; senior asst. in charge, Astrophys. Observatory, Smithsonian Inst, 92–94; asst. prof. physics, Chicago, 94–96; astrophys, Yerkes Observatory, 96–97, assoc. prof, 97–98; director, Allegheny Observatory, 00–04; *gen. manager, Pressed Prism Plate Glass Co, 05–* Asst. ed, 'Astrophys. Jour'; assoc. ed, 'Harper's Scientific Memoirs.' Delegate from Smithsonian Inst. to Int. Bur. of Weights and Measures, Paris, 92. F.A.A; Astron. and Astrophys. Soc; Physical Soc; Mech. Eng; Electrochem. Soc; West Pa. Eng. Soc; hon. mem. Soc. Astron. de Mex; for. mem. Soc. Ital. di Spettroscop; assoc. Wash. Acad. Theory of the spectroscope; astronomical photography; velocity of light; Newtonian constant of gravitation; solar structure; ruling of large grating plates (up to 15 in.); photography with curved plate camera; reduction of eclipse observations; inventor pressed prism plate glass.

Wadsworth, Dr. M(arshman) E(dward), State College, Pa. **Mineralogy, Petrography, Geology.* Livermore Falls, Me, May 6, 47. A.B, Bowdoin, 69, A.M, 72; A.M, Harvard, 74, Ph.D, 79; Heidelberg, 84–85. Principal and supt. of schools, 63–73; prof. chem, Boston Dental Col, 73–74; instr. math. and miner, Harvard, 74–77, asst. geol, Mus. Comp. Zool, 77–87; prof. miner. and geol, Colby, 85–87; pres. and prof. miner. petrog. and geol, Mich. Col. Mines, 87–99; state geologist, Mich, 88–93; geologist and mining expert, Keweenawan Ass, 98–02; *prof. mining and geol, Pa. State, 01–; geologist, Pa. State Board of Agr, 02–* Asst, N. H. Geol. Surv, 74; asst. geologist, Minn. Geol. Surv, 86–87; asst. ed, 'Am. Geologist.' F.A.A; Geol. Soc; Min. Eng; Eng. Educ; Nat. Geog. Soc; Boston Soc. Nat. Hist; fel. London Geol. Soc. The physical side of mineralogy; petrography; general and economic geology; educational methods.—Origin, alteration and classification of minerals and rocks, including meteorites, ore and other economic deposits.

Wadsworth, Dr. O(liver) F(airfield), 526 Beacon St, Boston, Mass. *Ophthalmology.* Boston, April 26, 38. A.B, Harvard, 60, A.M, 63, M.D, 65. *Visiting ophthal. surgeon, Boston City Hosp, 70–;* instr. ophthal, Harvard Med. Sch, 81–91, prof, 91–03; *ophthal. surgeon, Mass. Charitable Eye and Ear Infirmary, 92–* Ophthal. surgeon to out-patients, Mass. Gen. Hosp, 73–00, mem. consulting board, 00– Ophthal. Soc. (pres, 98–02); fel. Am. Acad; Boston Soc. Med. Improv; Boston Soc. Med. Sci; Heidelberg Ophthal. Gesell. Regeneration of the epithelium of the cornea; improvement of the ophthalmoscope.

Wagner, Prof. Frank C(aspar), 1111 S. Sixth St, Terre Haute, Ind. *Steam and electrical engineering.* Ann Arbor, Mich, Oct. 5, 64. A.M, Michigan, 84, B.S, 85. Asst. physics, Michigan, 84–85; with Thomson-Houston Elec. Co, 86–89; asst. prof. mech. eng, Michigan, 90–96; assoc. prof. steam and elec. eng, *Rose,* 96–04, *prof. steam eng, 04–* F.A.A; Mech. Eng. Dynamo and electromagnet design; steam-engine testing.—Electromagnet design; steam turbines; pyrometer measurements in furnaces.

Wagner, Prof. George, 1901 Jefferson St, Madison, Wis. *Zoology.* New Ulm, Minn, Feb. 4, 73. Ph.C, Michigan, 93; A.B, Kansas, 99; A.M, Michigan, 03. Instr. pharmacog, Northwestern, 93–95; pharmacy and pharmacog, Kansas, 95–97, asst. prof, 97–99, assoc. prof, 99; asst. *zool,* Michigan, 99–02; *instr, Wisconsin, 03–* M.A.A; Kas. Acad. (curator, 97–99). Zoology; paleontology.—Animal behavior; Arachnoidea.

Wahl, Dr. W(illia)m H(enry), 1436 N. 13th St, Philadelphia, Pa. *Chemistry, Electrometallurgy.* Philadelphia, Dec. 14, 48. A.B, Dickinson, 67; Ph.D, Heidelberg, 69. Instr. nat. science, Episcopal Acad, Phila, 69–70; ed, 'Jour. Franklin Inst,' 70–75; assoc. ed, 'Eng. and Mining Jour,' 79–80; *ed,* 'Manufacturer and Builder,' 80–95; '*Jour. Franklin Inst,*' 82– Prof. physics, Central High Sch, Phila, 74; lecturer miner, Wagner Free Inst. Officier de l'Instruction Pub. Electrochem. Soc; Philos. Soc; Franklin Inst. (sec'y, 70–75, 82–). Metallurgy; electroplating; electrometallurgy.—Metallurgy of chromium, tungsten and other metals reducible with difficulty; application of aluminium and its alloys as reducing agents; utilization of metal wastes.

Waidner, Dr. Cha(rle)s W(illiam), 1429 R St, N. W, Washington, D. C. **Physics.* Baltimore, Md, March 6, 73. E.E, Hopkins, 92, A.B, 96, fellow, 97–98, Ph.D, 98. Asst. physics, Hopkins, 98–99; instr, Williams, 99–01; lab. asst, *Bur. Standards,* 01–04, *assoc. physicist, 04–* Draftsman, Mech. Eng. Dept, Columbian Expos, 93. Physical Soc; Wash. Philos. Soc. Rowland's thermometric scale and recalculation of the mechanical equivalent of heat; sensitive galvanometers especially adapted to bolometric work; optical pyrometry.—Mercurial and electrical resistance; thermoelectric pyrometry.

Wait, Dr. Cha(rle)s E(dmund), University of Tennessee, Knoxville, Tenn. *Chemistry.* Little Rock, Ark, Nov. 3, 49. C.E, M.E, B.S, Virginia, 74; Ph.D, Missouri, 88. Prof. math, St. John's (Ark.), 75; mining engineer, Ark. Antimony Co, 76; prof. eng, Arkansas, 77; director, Mo. Sch. Mines, 79–88; *prof. chem, Tennessee, 89–* Chemist, Sacramento Smelting and Refining Co, Cal; first asst. chemist, U. S. Dept. Agr, 88. M.A.A; Min. Eng; Chem. Soc; Social Sci. Ass; fel. British Ass; fel. London Chem. Soc. Nutrition investigations.

Wait, Prof. L(ucien) A(ugustus), Cornell University, Ithaca, N. Y. *Mathematics.* Highgate, Vt, Feb. 8, 46. A.B, Harvard, 70. Asst. prof. math, *Cornell,* 70–77, assoc. prof, 77–90, prof, 90–95, *head, Math. Dept, 95–* U. S. Consul, Athens and Piraeus, Greece, 73–74. Math. Soc.

Waite, Prof. Frederick C(layton), Western Reserve University, Cleveland, O. *Anatomy, Zoology.* Hudson, O, May 24, 70. B.Litt, Adelbert, 92, A.M, Western Reserve, 94; A.M, Harvard, 96, Ph.D, 98. Instr. biol, N. Y. City high schools, 98–00; N. Y. Univ, 99; asst. anat, Chicago, 00–01; asst. prof. *histol. and embryol, Western Reserve,* 01–04, *assoc. prof, 04–* M.A.A; Soc. Nat; Ass. Anat; Soc. Zool; Ohio Acad; Boston Soc. Nat. Hist; Cleveland Acad. Med. Embryology and morphology of Crustacea; anatomy of Amphibia.—Structure and development of the parotoid glands in Amphibia; morphology and development of rectal gland in elasmobranchs.

Waite, Dr. H(erbert) H(arold), 2611 Q St, Lincoln, Nebr. *Bacteriology, Pathology.* Leverett, Mass, July 4, 68. A.B, Amherst, 92; M.D, Michigan, 01; A.M, Amherst, 03. Instr. bacter, Michigan, 96–01; asst. prof. *bacter. and path, Nebraska,* 02–05, *assoc. prof, 05–* State pathologist, Nebraska, 04– Am. Med. Ass; Nebr. State Med. Ass. Disinfection of rooms.

Waite, M(erton) B(enway), U. S. Department of Agriculture, Washington, D. C. *Plant pathology.* Oregon, Ills, Jan. 23, 65. B.S, Illinois, 87. Asst. bot, Illinois, 87–88; asst. pathologist, *U. S. Dept. Agr,* 88–01, *pathologist in charge of investigations of orchard fruits, 01–* F.A.A. (sec'y, G, 95); Soc. Plant Morph. and Physiol; Soc. Hort. Sci; Wash. Biol. Soc; Wash. Bot. Soc. Pear blight; pollination of pomaceous fruits; diseases of orchard fruits.—Little peach and other peach diseases; fungicides and methods of treating plant diseases.

Wake, C(harles) Staniland, Field Columbian Museum, Chicago, Ills. *Anthropology, Philosophy.* Kingston-upon-Hull, England, March 22, 35. Hull Col, England, 41–48. Assoc. ed, 'Am. Antiquarian.' British Ass. (mem. Gen. Committee); hon. assoc. British Soc. Psychical Research; Anthrop. Inst. of Gt. Britain and Ire. (director, 71, mem. Council); British Folk-lore Soc; London Anthrop. Soc; l'Inst. Psychol. Int. Ethnology; principles operative in man and nature.—Diagrammatic representation of principles operative in nature and man; mythology of aborigines of America.

Wakeman, Dr. Alfred J(ohn), Greenwich, Conn. *Physiological chemistry.* Greens Farms, Conn, Feb. 8, 65. Ph.B, Yale, 87; Ph.D, Leipzig, 94. Instr. chem, Mass. Inst. Tech, 87–89; Sheffield Sci. Sch, Yale, 92–95; *physiol. chem. research in private lab, New York.* Physiol. Soc; Chem. Soc. Physiological chemistry.

Walcott, Dr. Cha(rle)s D(oolittle), 1743 22nd St, N. W, Washington, D. C. **Paleontology, Geology.* New York Mills, N. Y, March 31, 50. Pub. schools. Asst, N. Y. State Surv, 76; asst. geologist, *U. S. Geol. Surv,* 79, paleontologist, 88–93, geologist, 93–94, *director, 94–; sec'y, Carnegie Inst, 02–* Hon. curator, Dept. Paleont, U. S. Nat. Mus, 92–97, 98–; acting asst. sec'y, Smithsonian Inst, in charge U. S. Nat. Mus, Jan, 97–July, 98. Bigsby medal, London Geol. Soc; LL.D, Hamilton, 98; Chicago, 01; Hopkins, 02; Pennsylvania, 03. Nat. Acad; F.A.A. (v. pres, 93); Soc. Nat; Geol. Soc; assoc. fel. Am. Acad; Philos. Soc; Wash. Acad. (pres, 99–); London Geol. Soc; for. mem. Accad. dei Lincei; fel. Christiania Sci. Soc. Stratigraphy and paleontology of the lower Paleozoic formations.—Sedimentation, stratigraphy and contained faunas of the Cambrian formations.

Walcott, Dr. H(enry) P(ickering), 11 Waterhouse St, Cambridge, Mass. *Medicine, Sanitary science.* Hopkinton, Mass, Dec. 23, 38. A.B, Harvard, 58; M.D, Bowdoin, 61; Vienna and Berlin, 62. Practising physician, Cambridge, 67–81; *chairman, Mass. State Board of Health,*

86– Mem. Board of Pres. and Fellows, Harvard, acting pres, 00– Boylston med. prize, 71. Am. Physicians (v. pres.); Am. Acad. (v. pres.). Purification of municipal water supplies; the disposal of sewage.—The extension of malaria in Massachusetts; the removal of harmful organisms from public water supplies.

Walden, Dr. E(lisha) C(hisholm), Webb City, Mo. *Physiology, Chemistry, Bacteriology.* Chicago, Ills, Nov. 24, 71. A.B, Ohio Wesleyan, 92; M.S, Cincinnati, 97; Ph.D, Hopkins, 00. Prof. nat. sciences, Rust, 94–96; director and manager, Bacter. Laboratories, John T. Milliken and Co, St. Louis, 00–02; asst, Health Dept, St. Louis, 00–02; *pres, Walden Assay Co, and chemist for various smelting companies, 02–* In charge, Supply Dept, Woods Hole, 94–96. Relation of natural sleep and hypnotic sleep; effect of inorganic salt on heart.—Antitoxins in tuberculosis and typhoid; typhoid malaria.

Walden, Prof. P(ercy) T(albot), 162 Sheffield Laboratory, New Haven, Conn. *Chemistry.* Brooklyn, N. Y, June 29, 69. Ph.B, Yale, 92, Ph.D, 96; Leipzig and Munich, 99–00. Asst. *chem, Sheffield Sci. Sch, Yale,* 92–94, instr, 94–99, *asst. prof, 00–* Chem. Gesell. The double salts of iron and the alkali metals; the structure of the amidins; the double bromids of caesium and lead; the double halides of caesium and cadmium; the acid ammonium oxalates.—The existence of penta valent arsenic in solutions of alkali sulphids; the radium content of residues from monozite.

Waldo, Prof. C(larence) A(biathar), 113 S. Ninth St, Lafayette, Ind. *Mathematics.* Hammond, N. Y, Jan. 21, 52. A.B, Wesleyan, 75, A.M, 78; Leipzig and Munich, 82–83; Ph.D, Syracuse, 93. Instr. *math,* Wesleyan, 77–81; prof, Rose, 83–91; De Pauw, 91–95; *head prof, Purdue, 95–* Acting pres, Rose, 86–87, 89–90. F.A.A. (sec'y, A, 93, D, 02, v. pres, 03, sec'y, Council, 04, gen. sec'y, 05); Math. Soc; Eng. Educ. (mem. Exec. Committee, sec'y, 02–04); Ind. Acad. (ed, 93, 95–97, pres, 98). Warped surfaces; volcanic activity; technical education.—Warped surfaces.

Waldo, Dr. Frank, 56 Shepard St, Cambridge, Mass. *Meteorology, Geography.* Cincinnati, O, Nov. 4, 57. B.S, Marietta, 78; Harvard, 80–82; Ph.D, Marietta, 89. Asst, Harvard Observatory, 78–81; U. S. Signal Service, 81–87; special agent, U. S. Weather Bur, 91; *authorship, scientific investigation and editorial work, 91–* Instr. astron, Radcliffe, 80–81. Wash. Philos. Soc; Meteor. Gesell; Austrian Meteor. Gesell. Standard meteorological apparatus; theory of air movements; wind velocities.—Available wind power in United States; winds of the American coast; violins; acoustics.

Waldo, Dr. Leonard, 640 W. Eighth St, Plainfield, N. J. *Metallurgy, Physics, Astronomy.* Cincinnati, O, May 4, 53. A.B, Marietta, 72, A.M; Sch. Mines, Columbia; Sc.D, Harvard, 79; A.M, Yale, 80. Asst, Cincinnati Observatory; asst. astronomer, U. S. Transit of Venus Exped, 74; Harvard Col. Observatory; astronomer, Yale Observatory; *consulting metal. and elec. engineer.* Medal, London Royal Soc. Arts. F.A.A; Elec. Eng; Min. Eng; Mech. Eng; N. Y. Acad; Conn. Acad. (sec'y); British Hort. Inst. Solar and stellar parallaxes; double stars and satellites of Mars; solar eclipses; aluminum, copper and special steels.—Permeability and hysteresis of certain steels; resistance metals; so-called aluminum bronzes.

Walker, Prof. B(uz) M, Agricultural College, Starkville, Miss. *Mathematics.* Starkville, Aug. 20, 63. B.S, Miss. Agr. and Mech. Col, 83, M.S, 86; Virginia; Chicago; Berlin. Instr. *math, Miss. Agr. and Mech. Col,* 83–84, asst. prof, 84–88, *prof, 88–, director, Sch. Eng, 02–* Math. Soc; Nat. Educ. Ass. Quadratic one to two and one to three transformation between two planes.—Transformation of algebraic curves.

Walker, Prof. W(illiam) H(ultz), Massachusetts Institute of Technology, Boston, Mass. *Chemistry.* Pittsburg, Pa, April 7, 69. B.S, Pa. State, 90; Ph.D, Göttingen, 92. Instr. chem, Pa. State, 92–94; *Mass. Inst. Tech,* 94–99, *prof. indust. chem, 02–* Practising chemical expert and engineer., Fifth Int. Cong. Applied Chem, Berlin, 93 (v. pres.). M.A.A; Chem. Soc; Electrochem Soc; Soc. Chem. Indust; Bunsen Gesell. The chemistry of cellulose; general electrochemistry; electrolysis of brine.—Utilization of waste sulphite liquor from manufacturing of cellulose fiber; superheated steam in the recovery of turpentine from waste wood.

Wallace, D(aniel) L(incoln), 924 S. 25th St, Philadelphia, Pa. *Chemistry.* Philadelphia, Nov. 12, 60. Pub. sch. *Instr. anal. chem, Pennsylvania, 92–* Electrolysis of metals.

Wallace, Prof. Louise B(aird), Mt. Holyoke College, South Hadley, Mass. *Zoology.* Newville, Pa, Sept. 21, 67. A.B, Mt. Holyoke, 98; Woods Hole, summers, 91–03; Naples Zool. Sta, 01; A.M, Pennsylvania, 04. Asst. *zool,* Mt. Holyoke, 93–96; Smith, 96–99; *assoc. prof, Mt. Holyoke, 99–* Soc. Zool. Axillary gland of Batrachus; the germ-ring in the egg of Batrachus; spermatogenesis in the spider.

Waller, Dr. Elwyn, Morristown, N. J. **Chemistry.* New York, N. Y, March 22, 46. A.B, Harvard, 67, A.M, 70; E.M, Columbia, 70, Ph.D, 75. Asst. anal. chem, Columbia, 71–75, instr, 75–85, prof, 85–93. Asst. sanitary inspector and later chemist, N. Y. Health Dept, 72–85. F.A.A; Chem. Soc; Soc. Chem. Indust; Min. Eng; Forestry Ass; Torrey Bot. Club; Wild Flower Preserv. Soc; fel. N. Y. Acad; London Chem. Soc; British Soc. Pub. Analysts; Chem. Gesell; Soc. chim. de Paris. Sanitary chemistry, especially of water; analytical methods.—Influence of weather on public water supplies.

Wallin, Dr. J(ohn) E(dward) Wallace, Princeton University, Princeton, N. J. *Psychology.* Bethesda, Ia, Jan. 21, 76. A.B, Augustana, 97; A.M, Yale, 99, fellow and hon. fellow, 99–01, Ph.D, 01; fellow, Clark, 01–02, hon. fellow.

Asst. to Pres. Hall, Clark, 01–02, research asst, 02; asst, Dept. Philos, Michigan, 02–03; *demonstrator exp. psychol, Princeton, 03–* Rhythm of speech; rhythmic action; cloud psychoses; optical illusions of reversible perspective.—Rhythm; pedagogy of colonization.

Walton, Dr. James H(enri), Jr, 713 W. Elm St, Urbana, Ills. *Physical chemistry.* Deer Isle, Me, Feb. 26, 78. B.S, Mass. Inst, Tech, 99, Austin fellow for foreign study, 01–03; Ph.D, Heidelberg, 03. Asst. *chem,* Illinois, 99–00; Mass. Inst. Tech, 00–01; *instr, Illinois, 03–* Chem. Soc. Catalysis.

Walton, Prof. L(ee) B(arker), Gambier, O. *Biology.* Bear Lake, Pa, Nov. 12, 71. Ph.B, Cornell, 97; Bonn, 97–99; A.M, Brown, 00; Goldwin Smith fellow, Cornell, 01–02, Ph.D, 02. Asst. *biol,* Brown, 00–01; *prof, Kenyon, 02–* Asst, U. S. Fish Commission, 00; Am. Mus. Nat. Hist, 01. M.A.A; Soc. Nat. Metamerism of articulates.—Morphology of Scolopendrella; variation and environment; the causes of variation.

Wanner, Atreus, 152 E. Philadelphia St, York, Pa. *Geology, Mineralogy, Archeology.* Washingtonville, O, Sept. 26, 52. A.B, Franklin and Marshall, 73. Principal, High Sch, *York, Pa,* 80–90, *city supt. pub. schools, 90–* F.A.A; Anthrop. Ass. Local geology and archeology.

Ward, Prof. A(rchibald) R(obinson), Agricultural Experiment Station, Berkeley, Cal. *Veterinary science, Bacteriology.* Ithaca, N. Y, Sept. 12, 75. B.S.A, Cornell, 98, D.V.M, 01. Asst. dairy bacter, Cornell, and dairy bacteriologist, Exp. Sta, 98–01; instr. vet. science and bacter, *California,* and veterinarian to Exp. Sta, 01–03, *asst. prof. bacter, 03–, director, State Hygienic Lab, 05–* Soc. Bact; Vet. Med. Ass. The bacterial flora of the cow's udder; slimy fermentations of milk; bacteriology of market milk; fowl cholera; tuberculosis of fowls.—Infectious diseases of chickens.

Ward, Cha(rle)s H(owell), 387 West Ave, Rochester, N. Y. *Osteology.* Rochester, Oct. 28, 62. Alfred, 80; special student, Rochester, 95–98. In charge, Dept. Human Anat, Ward's Nat. Science Establishment, 91–99; *manager, Anat. Lab. of Chas. H. Ward, 99–* Soc. Nat; Ass. Anat; hon. mem. Rochester Dental Soc; fel. Rochester Acad; hon. mem. Seventh Dist. N. Y. Dental Soc. Osteology; odontology.

Ward, Prof. Henry A(ugustus), 620 Division St, Chicago, Ills. *Natural science, Meteorites.* Rochester, N. Y, March 9, 34. A.B, Williams, 61; A.M, Rochester, 62. Prof. miner, geol. and zool, Rochester, 59–65; founder and *pres, Ward's Nat. Science Establishment, 69–* Zoologist, San Domingo Exped, 72. LL.D, Rochester, 96; Sc.D, Albertus Magnus, 02. F.A.A; Soc. Nat. Natural history, especially meteorites:—Characters and distribution in collections of all known meteorites.

Ward, Prof. Henry B(aldwin), University of Nebraska, Lincoln, Nebr. **Zoology.* Troy, N. Y, March 4, 65. A.B, Williams, 85; A.M, Ph.D, Harvard, 92; Göttingen, Freiburg, Leipzig and Naples Zool. Sta, 88–90. Instr. science, High Sch, Troy, 85–88; zool, Michigan, 93; assoc. prof. and later *prof. zool, Nebraska, 93–* In charge biol. work, Mich. Fish Commission, 94; assoc, Biol. Surv. Great Lakes, U. S. Fish Commission, 98–; dean, Med. Sch, Nebraska, 02; ed, 'Studies from Zool. Lab, Univ. of Nebr'; asst. ed, 'Am. Naturalist'; 'Woods Ref. Handbook Med. Science,' etc. F.A.A. (sec'y, F, 01, sec'y, Council, 02, gen. sec'y, 03, v. pres, 05); Zool. Soc; Micros. Soc. (sec'y, ed, 'Trans,' pres.); Fisheries Soc. (v. pres.); assoc. Am. Med. Ass; Nat. Cent. States; Nebr. Acad. (pres.); Soc. zool. de France. Investigations on Lakes St. Clair, Michigan and Erie; elevated lakes of Rocky and Sierra Mountains; plankton; parasites of man and the domestic animals; other worms.—Plankton of Lake Erie; parasites of man, of fish, etc.

Ward, Henry L(evi), Public Museum, Milwaukee, Wis. *Mammalogy, Ornithology.* York, N. Y, Oct. 8, 63. Rochester, 84. Osteologist, Mex. Geog. Exploring Commission, 87–91; dept. manager and v. pres, Ward's Nat. Science Establishment, Rochester, 91–02; *director, Milwaukee Pub. Mus, 02–* Silver and bronze medals, Paris Expos, 89. M.A.A; Wis. Acad; Wis. Nat. Hist. Soc. (v. pres, 04–). Mammals; birds; meteorites.—The formation of pearl in the Naiades.

Ward, Dr. Lester F(rank), 1464 Rhode Island Ave, Washington, D. C. **Botany, Sociology.* Joliet, Ills, June 18, 41. A.B, Columbian, 69, LL.B, 71, A.M, 73. Paleontologist, U. S. Geol. Surv, 81–05. Clerk, U. S. Treas. Dept; librarian, U. S. Bur. Statist. LL.D, Columbian, 97; Officier de l'Instruction Pub, 03. Int. Geol. Cong. F.A.A. (v. pres, 92); Philos. Soc; Wash. Acad; Wash. Anthrop. Soc; Int. Inst. Sociol. (pres, 03). Botany; paleobotany; sociology; psychic factors of civilization.—Mesozoic flora of the United States; bibliography of paleobotany; applied sociology.

Ward, Dr. R(ichard) Halsted, 53 Fourth St, Troy, N. Y. *Biology, Microscopy.* Bloomfield, N. J, June 17, 37. A.B, Williams, 58, A.M, 61; M.D, Columbia, 62. Instr. bot, Rensselaer, 67–68, prof. bot. and lecturer histol. and micros, 69–92. Assoc ed, 'Am. Naturalist', 71–82. Mem. Committee of Honor and Patronage, Int. Expos. of Micros, Antwerp, 91. F.A.A. (chairman, Subsect. Micros, 76–78); Micros. Soc. (pres, 78, 79, hon. mem, 96); Postal Micros. Club (pres, 95–); Am. Med. Ass; Am. Acad. Med; Troy Sci. Ass. (pres, 70–77, 80–); Royal Micros. Soc; hon. mem. Soc. Belge de Micros. Microscopy.

Ward, Prof. R(obert) DeC(ourcy), Fayerweather St, Cambridge, Mass. *Meteorology, Climatology.* Boston, Mass, Nov. 29, 67. A.B, Harvard, 89, A.M, 91. Asst. meteorol, *Harvard,* 90–95, instr. *climat,* 95–00, *asst. prof, 00–* Ed, 'Am. Meteorol. Jour,' 92–96; assoc. ed, 'Bul. Am. Geog. Soc'; 'Jour. of Geog,' etc. F.A.A; Geog. Ass; fel. Am. Acad; fel. Royal Meteor. Soc;

Meteor. Gesell. General climatology; thunderstorms and sea-breezes of New England; relations of climate and man.

Ward, Dr. Sam(ue)l B(aldwin), 281 State St, Albany, N. Y. *Medicine.* New York, N. Y, June 8, 42. A.B, Columbia, 61, A.M, 64; M.D, Georgetown, 64. Acting asst. surgeon, U. S. A, 63; asst. surgeon, U. S. Vols, 64–65; visiting surgeon, Presbyterian Hosp, N. Y, 71–76; Albany Hosp, 76–85; *prof.* surg, *Albany Med. Col,* 76–85, *theory and practise of med, 85–; visiting physician, Albany Hosp, 85–* Mem. Board of Trustees, Albany Female Acad, 78–; sec'y and treas, Exec. Committee, State Nor. Col, Albany, 89–; pres, Board of Trustees, Dudley Observatory, 02–; mem. Board of Governors, Albany Hosp. and Union Univ. Hon. Ph.D, Union, 82. Am. Physicians; N. Y. State Med. Soc. (pres, 88); Albany Co. Med. Soc. (pres, 02).

Ware, Prof. William R(obert), 419 W. 118th St, New York, N. Y. *Architecture.* Cambridge, Mass, May 27, 32. A.B, Harvard, 52, B.S, 56. Prof. *archit,* Mass. Inst. Tech, 65–81; *Columbia,* 81–03, *emer. prof, 03–* LL.D, Harvard, 96. F.A.A; Inst. Archit; Am. Acad; Social Sci. Ass; Archeol. Inst; cor. mem. Royal Inst. Archit; cor. mem. Soc. des Archit. Perspective.

Warner, W(orcester) R(eed), 1722 Euclid Ave, Cleveland, O. *Mechanics, Physics, Astronomy.* Cummington, Mass, May 16, 46. *Pres, The Warner and Swasey Co, 00–* Hon. D.Sc.M, Western Univ. of Pa, 97. F.A.A. (sec'y, D, 89); Astron. and Astrophys. Soc; Mech. Eng. (pres, 97); fel. Royal Astron. Soc; British Astron. Ass.

Warren, Dr. Charles H(yde), Massachusetts Institute of Technology, Boston, Mass. *Mineralogy, Petrography.* Watertown, Conn, Sept. 27, 76. Sheffield Sci. Sch, 96, Ph.D, Yale, 99. Instr. *miner,* Sheffield Sci. Sch, Yale, 00–01; *Mass. Inst. Tech,* 01–04, *asst. prof, 04–* M.A.A; Geol. Soc. Chemical mineralogy; various petrographical descriptions.—Experimental petrography.

Warren, Prof. Howard C(rosby), Princeton University, Princeton, N. J. **Psychology.* Montclair, N. J, June 12, 67. A.B, Princeton, 89, fellow, 89–90, A.M, 91; Leipzig, Berlin and Munich, 91–93. Instr. logic, *Princeton,* 90–91, demonstrator *exp. psychol,* 93–96, asst. prof, 96–02, *prof, 02–* Assoc. ed, 'Am. Naturalist,' 96; 'Psychol. Rev,' 00–03, co-editor, 03– F.A.A; Soc. Nat; Psychol. Ass; Anthrop. Ass; Nat. Geog. Soc. Experimental psychology; bibliography.

Warren, Dr. J(ohn) Collins, 58 Beacon St, Boston, Mass. **Surgery.* Boston, May 4, 42. A.B, Harvard, 63, M.D, 66. Instr, *Harvard Med. Sch,* 71–72, *surg,* 72–82, asst. prof, 82–87, assoc. prof, 87–93, *prof, 93–* Ed, 'Boston Med. and Surg. Jour,' 73–80; pres, Mass. Charitable Eye and Ear Infirmary, 86. LL.D, Jefferson, 95. Ass. Path. and Bact; Surg. Ass. (pres, 96); Am. Med. Ass; Mass. Med. Soc; Phila. Col. Physicians; hon. fel. Royal Col. Surg; hon. fel. Edinburgh Royal Col. Surg. Rodent ulcer; columnae adiposae; carbuncle; healing of arteries; diseases of mammary gland.

Warren, Dr. J(oseph) W(eatherhead), Bryn Mawr, Pa. **Physiology.* Springfield, Mass, June 24, 49. A.B, Harvard, 71; Berlin, 71–72; Leipzig, 72–73; Bonn, 73–80, Prakt. Arzt, 79, M.D, 80. Asst. and instr. *physiol,* Harvard, 81–91; *assoc. prof, Bryn Mawr, 91–* Lecturer physiol, Med. Dept, N. Y. Univ, 85–86; Michigan, 89. F.A.A; Soc. Nat; Physiol. Soc; fel. Phila. Col. Physicians. Animal physiology.

Warren, Prof. Samuel Edward, Newton, Mass. *Descriptive geometry, Stereotomy, Drawing.* West Newton, Mass, Oct. 29, 31. C.E, Rensselaer, 51. Instr. drawing and descrip. geom, Rensselaer, 52–53, prof, 54–72; Mass. Inst. Tech, 73–75; lecturer, Mass. Nor. Art. Sch, 74–75; *lecturer and private instructor, 76–* Certificate of hon. mention, Centennial Expos, 76; Paris Expos, 78. F.A.A; New Eng. Hist. Geneal. Soc; Newton Nat. Hist. Soc. (pres.). Organization of technical instruction; sociology; botany.—Local life by local time expressed in standard time; graphical solutions in descriptive geometry.

Warren, Prof. William H(omer), 1806 Locust St, St. Louis, Mo. *Chemistry.* Charleston, S. C, Nov. 4, 66. A.B, Harvard, 89, A.M, 91, Ph.D, 92. Chemist, E. R. Squibb and Sons, Brooklyn, N. Y, 92–96; N. Y. Quinine and Chem. Works, 96–97; consulting chemist, 97–98; *prof. chem, Med. Dept, Washington (St. Louis), 98–* St. Louis Acad; Chem. Gesell. Nitro derivatives of metabromtoluol; reactions of sodic alcoholates with tribrom-dinitro-benzol and tribrom-trinitro-benzol; turmerol.—Action of arginase; action of ammonia upon α, β-dibrompropionic acid; action of anhydrous ammonia upon proteids.

Warren, Prof. William Marshall, 254 Walnut St, Brookline, Mass. *Philosophy.* Bremen, Germany, Nov. 4, 65. A.B, Boston, 87; Tübingen, Jena and Berlin, 90–91; Ph.D, Boston, 92. Instr. rhetoric and English lit, *Boston,* 87–88, math, 88–89, math. and hist, 89–90, asst. prof. *philos,* 92–96, *prof, 96–, dean, Col. Lib. Arts, 05–* Lecturer, private schools, Boston. History of philosophy; epistemology.—Theory of the numerical sciences; philosophical terminology; philosophic ideals.

Warring, Dr. C(harles) B(artlett), 288 Mill St, Poughkeepsie, N. Y. *Physics, Geology.* Charlton, N. Y, Jan. 13, 25. A.B, Union, 45. Instr. math, Poughkeepsie Mil. Inst, 45–51, math. and physics, 63–80. Hon. Ph.D, N. Y. Univ. N. Y. Acad; Victoria Inst. Behavior of precessional bodies; evolution of the continents; geological climate.—Gyrational bodies; the importance of nutation and precession.

Warthin, Dr. A(ldred) S(cott), 1020 Ferdon Road, Ann Arbor, Mich. **Pathology, Anatomy.* Greensburg, Ind, Oct. 21, 66. A.B, Indiana, 88; A.M, Michigan, 90, M.D, 91, Ph.D, 93; Vienna

and Freiburg, 93, 94, 95. Asst. internal med, *Michigan*, 91, demonstrator, 92–95, instr. *path*, 95–99, asst. prof, 99–02, junior prof, 02–03, *prof. and director, Path. Lab, 03–* Ass. Path. and Bact; Am. Physicians; Ass. Anat; Soc. Exp. Biol. and Med; Nat. Ass. for Study and Prevention of Tuberculosis; Am. Med. Ass; Mich. Med. Soc. Pathology of Pacinian corpuscles; histology and pathology of hemolymph glands; pathology of anemia.—Normal and pathological hemolysis; pathology of secondary and pernicious anemias; histology and pathology of human parathyroids.

Washburn, Prof. F(rederic) L(eonard), 1112 Sixth St, S. E, Minneapolis, Minn. *Biology.* Brookline, Mass, April 12, 60. A.B, Harvard, 82; Hopkins, 85–86; Thayer scholar, Harvard, 87–88, A.M, 95. Instr. zool, Michigan, 87–88; entomologist, Ore. Exp. Sta, 88–94; prof. biol, Oregon, 94–02; *state entomologist, Minn, 02–* State biologist, Ore, 98. F.A.A; Soc. Nat; Ass. Econ. Entom. Bionomics of certain insects; acclimatization of eastern oyster on Oregon coast; food fishes of Oregon; sex of Ostrea lurida; scientific and economic entomology.

Washburn, Prof. Margaret F(loy), 20 Bay View Terrace, Newburgh, N. Y. **Psychology.* New York, N. Y, July 25, 71. A.B, Vassar, 91, A.M, 93; Ph.D, Cornell, 94. Prof. psychol. and ethics, Wells, 94–00; warden, Sage Col, Cornell, 00–02, lecturer psychol, 01–02; asst. prof, Cincinnati, 02–03; *assoc. prof. philos. in charge psychol, Vassar, 03–* Psychol. Ass; Philos. Ass. Space-perception of the skin; after-images. —Comparative psychology.

Washburne, Alva C(ourtenay), Tarrytown, N. Y. *Actuarial mathematics.* Mt. Auburn, Ills, 66. Purdue, 84–88; U. S. Mil. Acad, 88–90. Asst. civil engineer, La Fayette, Ind, 82–84; instr. math. and mil. tactics, N. Y. Mil. Acad, Cornwall-on-Hudson, 90–91; Chittenham Acad, Ogontz, Pa, 91–92; instr, Ogontz Sch. for Young Ladies, 91–92; Ossining Sem, 92–93; St. John's Sch, Ossining, N. Y, 92–93; asst. prof. math, Mass. Agr. Col, 93–95; *with Actuarial Dept, Metropolitan Life Ins. Co, New York, 95–* M.A.A; Math. Soc; assoc. Actuarial Soc; fel. Statist. Soc. Applied mathematics; engineering; actuarial science.—Actuarial mathematics.

Washington, Dr. Henry S(tephens), Locust, N. J. **Petrology.* Newark, N. J, Jan. 15, 67. A.B, Yale, 86, A.M, 88; Am. Sch. of Classical Studies, Athens, 88–94; Ph.D, Leipzig, 93. Asst. physics, Yale, 86–88, miner, 95–96; *work in private lab, 96–* Research asst, Carnegie Inst. F.A.A; Geol. Soc; Torrey Bot. Club; fel. Archeol. Inst; New Eng. Bot. Club; fel. Conn. Acad; fel. N. Y. Acad; for. cor. London Geol. Soc. Petrography of igneous rocks, their chemical analysis and classification, especially rocks from Asia Minor, Greece, Italy, Massachusetts, Arkansas and Siberia; excavations in Greece.—Classification of igneous rocks; a collection of all analyses of igneous rocks since 1883, with critical text; microscopic study of Greek pottery; rocks from New Hampshire; rocks from Italy, Sardinia, Spain, etc.

Waterman, Prof. Frank A(llan), 22 Kensington Ave, Northampton, Mass. **Experimental physics.* Oswego, N. Y, July 9, 65. A.B, Princeton, 88, Ph.D, 96. Prof. *physics*, Purdue, 91–93; instr, Princeton, 93–97; *prof, Smith, 97–* M.A.A; Physical Soc. Specific heats of metals.

Waters, Dr. C(ampbell) E(aster), The Columbian, Washington, D. C. *Chemistry.* Baltimore Co, Md, Sept. 14, 72. A.B, Hopkins, 95, Ph.D, 99. Prof. chem. and physics, Conn. Agr. Col, 00–01; asst. chem, Hopkins, 01–04; *asst. chemist, Bur. Standards, 04–* Chem. Soc; Linnean Fern Chapter (past pres. and sec'y); Wild Flower Preservation Soc. (treas.); Wash. Chem, Biol. and Bot. Societies. Products formed by the action of heat on parasulphamin metatoluic acid; key to ferns of the northeastern states based on the stipes; action of ozone on carbon monoxid; etc.

Waters, Prof. H(enry) J(ackson), Columbia, Mo. *Agriculture.* Center, Mo, Nov. 23, 65. B.Agr, Missouri, 86; Leipzig, 04–05; Zürich, 05. Asst. sec'y, Mo. State Board of Agr, 86–87; asst. agr, Mo. Exp. Sta, 87–91; prof. agr, Pa. State, 92–95; *dean, Col. Agr. and Mech. Arts, Missouri, and director, Exp. Sta, 96–* Lecturer animal nutrition, Grad. Sch. Agr, Ohio State, 02. Soc. Prom. Agr. Sci. Influence of nutrition ratio and quantity of food on economy of milk and beef production; comparative value of root crops and silage for milk production; influence of shelter on rate and economy of gain in cattle; comparative value of different coarse fodders for production of beef.

Watson, Prof. A(rthur) E(ugene), 30 Congdon St, Providence, R. I. *Electrical engineering.* Providence, March 4, 66. A.B, Brown, 88, A.M, 98, Ph.D, 05. Draftsman, Thomson-Houston Elec. Co, 88; asst. foreman, Drafting and Eng. Dept, Thomson-Houston and Gen. Elec. Companies, 89–95; instr. *physics, Brown*, 95–99, *asst. prof, 99–* Occasional summer work, Eng. Dept, Gen. Elec. Co; lecturer, Univ. Exten. Dept, Brown, 91–92. Electrical engineering.

Watson, B(enjamin) M(arston), Jamaica Plain, Mass. *Horticulture.* Plymouth, Mass, Nov. 26, 48. A.B, Harvard, 70. *Instr. hort, Bussey Inst, Harvard, 77–* Prof. bot, Mass. Hort. Soc. M.A.A; Soc. Hort. Sci.

Watson, Dr. F(loyd) R(owe), 706 W. Green St, Urbana, Ills. *Physics.* Lawrence, Kas, April 23, 72. B.S, California, 99, Le Conte fellow, 99, Whiting traveling fellow, 00; Pres. White fellow, Cornell, 01, Ph.D, 02. Instr. *physics, Illinois*, 02–04, *asst. prof, 04–* Physical Soc. Surface tension and viscosity of liquids; ripple waves on liquids.—Liquid jets and flow of fluids through orifices.

Watson, Dr. John B(roadus), 82 Faculty Exchange, University of Chicago, Chicago, Ills. *Psychology.* Greenville, S. C, Jan. 9, 78. A.M,

Furman, 99; fellow, Chicago, 01–03, Ph.D, 03. Principal, Batesbury Inst, 99–00; asst. *exp. psychol, Chicago*, 03–04, *instr, 04–* Psychol. Ass. Animal psychology; animal education.—Normal body growth of white rat; the rôle played by the various sense-organs in the mental associations of animals.

Watson, Prof. J(oseph) R(alph), Rochester, Ind. *Biology.* Berea, O, Aug. 1, 74. B.S, Baldwin, 97; Western Reserve, 98–00, A.M, 99. Asst. and instr. biol, Adelbert Col, Western Reserve, 99–00; instr. bot, physics and chem, Berea, 01–02; *prof. biol, physics and chem, Rochester Nor. Univ, Ind, 03–* With Ohio Agr. Exp. Sta, 01, 03. M.A.A; Ohio. Acad. Flowering plants and ferns of Cuyahoga County, Ohio.—Life history of Cambarus; physiologic hygiene; flowering plants of Fulton County, Ind.

Watson, Prof. Thomas L(eonard), Virginia Polytechnic Institute, Blacksburg, Va. *Geology.* Chatham, Va, Sept. 5, 71. Grad, Va. Agr. and Mech. Col, 90, M.S, 93; fellow, Cornell, 96–97, Ph.D, 97. Asst. chemist, Va. Exp. Sta, 90–95; instr. geol, Va. Agr. and Mech. Col, 91–95; asst. state geologist, Ga. Geol. Surv, 98–01; *prof. geol,* Denison, 01–04; *Va. Polytech. Inst, and geologist in charge, Va. Geol. Surv, 04–* Field asst, Ind. Geol. Surv, summer, 97; research work, U. S. Nat. Mus, 97, 98; asst. geologist, N. C. Geol. Surv, 03; field asst, U. S. Geol. Surv, 03. Geol. Soc; Min. Eng. Lake levels and shore lines; rock weathering; petrography of certain igneous rocks in the southern Appalachians; granitic rocks; manganese and ocher deposits of Georgia; lead and zinc deposits of Virginia.—Rock weathering; petrology of the basic igneous rocks of Georgia and North Carolina; southern Appalachian granites.

Watson, Prof. William, 107 Marlborough St, Boston, Mass. *Mathematics, Engineering.* Nantucket, Mass, Jan. 19, 34. B.S, Harvard, 57 and 58; Paris, 60–61; Ph.D, Jena, 62. Instr. math, Lawrence Sci. Sch, Harvard, 56–59, univ. lecturer, Harvard, 63–64; prof. mech. eng. and descrip. geom, Mass. Inst. Tech, 65–73. U. S. Commissioner, Vienna Expos, 73; mem. Jury of Awards, hon. pres, Cong. of Archit. and v. pres, Cong. of Hygiene, Paris Expos, 78; hon. pres, Eng. Sect, French Ass, 78, 81, 83, 89; v. pres, Cong. Construction, Paris, 89; gen. sec'y, Cong. of Waterways, Chicago, 93. F.A.A; Civil Eng; Mech. Eng; fel. Am. Acad. (rec. sec'y, 84–); Soc. des Ing. civile de France; Cherbourg Soc. Sci. Nat. Mathematics; new coordinates applied to evolutes and caustics; virtual velocities; descriptive geometry; shades and shadows. —Perspective.

Watson, Prof. W(illiam) F(ranklin), Greenville, S. C. *Chemistry, Biology.* New Brunswick, Can, May 11, 61. A.B, Colby, 87, A.M, 90; Pennsylvania, 92–93; Chicago, 98. *Prof. chem. and biol. and curator of Mus, Furman Univ, 90–* Medal, S. C. Interstate and W. I. Expos, 02. Micros. Soc. (mem. Exec. Committee); Nat. Geog. Soc. Improved methods in photomicrography.—Experiments in photographing with natural lenses, using the crystalline lens of higher animals and the corneal lenses from the eye of an insect.

Waugh, Prof. F(rank) A(lbert), Amherst, Mass. *Horticulture.* Sheboygan, Wis, July 8, 69. B.S, Kas. State Agr. Col, 91, M.S, 93; Cornell, 97–98. Asst. *hort,* Kas. State Agr. Col, 91; *prof,* Okla. Agr. and Mech. Col, 93–95; Vermont, 95–02; *Mass. Agr. Col, 02–* Hort. ed, 'Country Gentleman'. Systematic pomology, especially plums; pollination; lilies.—Symbiosis of cion and stock; systematic relation of cultivated plums; pruning; landscape gardening.

Wead, Prof. C(harles) K(asson), U. S. Patent Office, Washington, D. C. **Physics.* Malone, N. Y, Sept. 1, 48. A.B, Vermont, 71, A.M, 74; Mass. Inst. Tech, 72; Berlin, 75–76. Prof. physics, High Sch, Pittsburg, Pa, 72–75; Michigan, 77–85; elec. engineer and contractor, 87–90; *examiner, U. S. Patent Office, 92–* F.A.A. (sec'y, B, 83); Wash. Acad; Wash. Philos. Soc. Physical and musical acoustics; history of musical scales; the history, physical theory and laws of musical instruments; acoustics of public buildings.—The graphical method.

Weaver, Dr. George H(owitt), 535 Washington Boulevard, Chicago, Ills. *Medicine, Bacteriology.* Sussex, Wis, Oct. 22, 66. Carroll, 82–85; Wooster, 85–86; M.D, Rush Med. Col, 89. Prof. *path,* Northwestern Women's Med. Sch, 93–97; *asst. prof, Rush Med. Col, 99–* Asst, Memorial Inst. for Infectious Diseases, Chicago, 02–; attending physician children's and contagious diseases, Cook Co. Hosp, 05– Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Ills. Med. Soc; Chicago Med. Soc; Chicago Path. Soc. (sec'y). Bacteriology of vaccine; Widal's test for typhoid fever; experimental cirrhosis of the liver; bacteriology of scarlatina and scarlet fever; effects upon streptococci of blood-serum from cases of scarlatina; bacteriology of summer diarrhea in infants.

Webb, Prof. J(ohn) Burkitt, Hoboken, N. J. **Physics, Mathematics.* Philadelphia, Pa, 41. C.E, Michigan, 70; Heidelberg, Göttingen, Berlin and Paris, 78–81. Asst. prof. civil eng, Michigan, 70–71; *prof,* Illinois, 71–78; applied math, Cornell, 81–85; *math. and mech, Stevens, 85–* Judge, Int. Elec. Exhib, Phila, 84; mem. Int. Jury of Awards, La. Purchase Expos, 04. F.A.A; Math. Soc; Mech. Eng. Mathematics; mechanics; scientific apparatus.

Webber, Dr. H(erbert) J(ohn), Takoma Park, Washington, D. C. **Plant physiology.* Lawton, Mich, Dec. 27, 65. B.S, Nebraska, 89, A.M, 90; Ph.D, Washington (St. Louis), 01. Instr. bot, Nebraska, 89–90; Washington (St. Louis), 90–92; pathologist, *U. S. Dept. Agr,* 92–99; *physiologist in charge, Plant Breeding Lab, 00–* Rep. of U. S. Dept. Agr, Int. Conf. on Hybridization, 98. F.A.A; Soc. Plant Morph. and Physiol. Plant reproduction; Zamia and Ginkgo; orange diseases; investigation and practical work on plant breeding.—Practical

work on breeding of oranges, cotton, corn, pineapples, etc; heredity and evolution and the principles of plant breeding.

Weber, Prof. H(enry) A(dam), 1342 Forsythe Ave, Columbus, O. **Agricultural chemistry.* Clinton Township, O, July 12, 45. Otterbein, 61–63; grad, Polytech, Kaiserlautern, 63–66; Munich, 66–68; Ph.D, Ohio State, 79. Asst. chemist, Ohio Geol. Surv, 69–74; *prof.* chem. and miner, Illinois, 74–82; *agr. chem, Ohio State, 84–* Chemist, State Board of Agr, and State Board of Health, Ills, 74–82; state chemist and chief chemist, Ohio State Dairy and Food Commission, 85–97; chemist to Ohio Board of Agr. for inspection of feeding stuffs. F.A.A. (sec'y, 99, v. pres, 02); Chem. Soc; Micros. Soc; Ohio Acad. Manufacture of sugar from sorghum; testing soils for fertilizers; the action of antiseptics in salivary digestion; root tubercles in water culture; light as a factor in sugar production.

Webster, Prof. A(rthur) G(ordon), 66 West St, Worcester, Mass. **Physics.* Brookline, Mass, Nov 28, 63. A.B, Harvard, 85, Parker fellow, (Berlin, Paris and Stockholm), 86–90; Ph.D, Berlin, 90. Instr. math, Harvard, 85–86; docent *physics, Clark,* 90–92, asst. prof, 92–00, *prof, 00–* Lecturer, Lowell Inst, Boston, 97. Elihu Thomson prize, Paris, 95. Nat. Acad; F.A.A; Math. Soc; Physical Soc. (Council, v. pres, 01–03, pres, 03–05); fel. Am. Acad; Math. Verein. Period of electric oscillations; acoustics; mechanics.—Acoustics by means of a new phonometer; a standard of intensity of sound; limits of audibility; etc.

Webster, F(rancis) M(arion), U. S. Department of Agriculture, Washington, D. C. **Entomology.* Lebanon, N. H, Aug. 8, 49. M.S, Ohio (Athens), 93. Asst. state entomologist, Ills, 82–84; prof. applied entom, Purdue, 84–88; special agent, U. S. Dept. Agr, 84–92; entomologist, Ohio Agr. Exp. Sta, 92–02; temporary field agent, U. S. Dept. Agr. and asst, Ills. State Lab. Nat. Hist, 02–04; *in charge of field crop insect investigations, U. S. Dept. Agr, 04–* F.A.A; Soc. Nat; Ass. Econ. Entom. (pres, 97); Soc. Prom. Agr. Sci. (sec'y and treas, 00–03); Nat. Geog. Soc; Wash. Entom. Soc; Cambridge Entom. Club; Ind. Acad; Ohio Acad. (pres, 94); hon. mem. Ont. Entom. Soc. Biological entomology; insect diffusion.

Webster, Prof. J(ohn) Clarence, Rush Medical College, Chicago, Ills. *Obstetrics, Gynecology.* Shediac, N.B, 63. A.B, Mt. Allison, 82; M.B, C.M, Edinburgh, 88, M.D, 90. *Prof. obstet. and gynec, Rush Med. Col, Chicago, 99–* Obstetrician and gynecologist, Presbyterian Hosp, Chicago; med. director, Chicago Lying-in Hosp. and Dispensary. Ass. Anat; fel. Am. Gynec. Soc; fel. Edinburgh Royal Soc; fel. Edinburgh Royal Col. Physicians; cor. mem. Soc. Ital. di Ostet. e Gynec; Palermo Reale Accad. d. Sci. Med. Anatomical, pathological, embryological and therapeutic obstetrics and gynecology.

Webster, Dr. R(alph) W(aldo), 5211 Jefferson Ave, Chicago, Ills. *Physiological chemistry.* Monmouth, Ills, April 16, 73. Ph.B, Chicago, 95; M.D, Rush Med. Col, 98, fellow, 98–99, fellow, Chicago, 99–01, Ph.D, 03. Asst. physiol. chem. *Chicago, 01–04, assoc. chem, Rush Med. Col, 01–* Path. chemist, Cook Co. Hosp, 05– Am. Med. Ass; fel. Am. Acad. Med; Chicago Med. Soc; Mil. Tract Med. Soc. Physical analysis of absorption of fluid by muscular tissues; diseases of metabolism.—Proteid bodies in urine of pneumonia; synthesis of glycuronic acid in the system; synthesis of polypeptid; acidosis.

Weed, Prof. Clarence M(oores), Lowell, Mass. **Entomology.* Toledo, O, Oct. 5, 64. B.S, Mich. Agr. Col, 83, M.S, 84; Sc.D, Ohio State, 91. Assoc. ed, 'Prairie Farmer,' 84–85; asst. state entomologist, Ills, 85–87; entomologist, Ohio Agr. Exp. Sta, 88–90; prof. zool. and entom, N. H. Col. Agr. and Mech. Arts, 91–04; *instr. nature-study, State Nor. Sch, Lowell, Mass, 04–* Entomologist, N. H. Exp. Sta; ed, Entom. Dept, 'Am. Naturalist,' 93–96. F.A.A; Ass. Econ. Entom; Soc. Prom. Agr. Sci; cor. mem. Wash. Entom. Soc; Boston Soc. Nat. Hist; Cambridge Entom. Club (pres, 97). Insect life histories; relations of flowers and insects; Phalangiidae of America.

Weed, Walter Harvey, U. S. Geological Survey, Washington, D. C. **Geology.* St. Louis, Mo, May 1, 62. E.M, Columbia, 83. Asst. geologist, *U. S. Geol. Surv,* 83–92, *geologist, 92–* Mem. Jury of Awards, La. Purchase Expos, 04, hon. special expert in copper; geologist, N. C. Geol. Surv, 04. F.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Wash. Geol. Soc; Wash. Acad; British Inst. Min. Eng; London Inst. Min. and Metal. General and economic geology, especially ore deposits; geological mapping and investigation of Yellowstone Park and Montana; geology of Mexico; coal of Montana; secondary enrichment of ore deposits; etc.—Butte (Mont.) copper deposits; gold mines of the Marysville district, Montana.

Weedon, Dr. W(illia)m S(tone), Eastern Laboratory, Chester, Pa. *Chemistry.* Calvert Co, Md, Sept. 5, 77. Baltimore City Col, 92–95; B.S, Md. Agr. Col, 97, M.S, 98; fellow, Hopkins, 01–02, Ph.D, 02. Prof. chem, Charlotte Hall Sch, 98–99; asst, Baltimore City Col, 99–00; instr, Deichmann's Col. Prep. Sch, Baltimore, 00–01; research chemist, Gen. Elec. Co, 02–04; *chemist, Eastern Dynamite Co, 04–* Electrochem. Soc. Oxidation products of phenylthiosalicylic acid; theory of the electric arc.

Weeks, Andrew Gray, 69 Bay State Road, Boston, Mass. *Entomology.* Boston, Oct. 2, 61. *Hon. assoc. entom, Harvard Univ. Mus, 03–* New Eng. Zool. Soc; Cambridge Entom. Club; Boston Soc. Nat. Hist; etc. Diurnal Lepidoptera.

Weeks, F(red) B(oughton), Edgerlie, Vienna, Va. *Geology.* Scott, N. Y, 64. Acad. Asst. geologist, *U. S. Geol. Surv,* 00–02, *librarian, 02–* Geol. Soc; Wash. Geol. Soc. Bibliography and

index of geology, paleontology, petrology and mineralogy.—Geology of Great Basin region.

Weems, Prof. J(ulius) B(uel), Crewe, Va. *Agricultural chemistry.* Baltimore, Md, Aug. 27, 65. B.S, Md. Agr. Col, 88; Ph.D, Clark, 94. Instr. math. and chem, Md. Agr. Col, 89; prof. agr. chem, Iowa State, 95–04. F.A.A; Chem. Soc; Soc. Chem. Indust; Soc. Prom. Agr. Sci; Chem. Gesell. Chemical composition of grasses; purification of sewage; soils, paints and other agricultural subjects.—Soils of Iowa; chemical composition of butter; methods of water and sewage analysis; agricultural education.

Weida, Prof. Geo(rge) F(rancis), Ripon, Wis. *Chemistry.* Allentown, Pa, Aug. 15, 70. B.S, Kansas, 90; fellow, Hopkins, 93–94, Ph.D, 94. Asst. pharmaceut. chem, Kansas, 88–90; *prof. chem*, Blackburn, 94–96; Baker, 96–97; Kas. State Agr. Col, 97–03; *Ripon, 03–* Organic chemistry.

Weidman, Dr. S(amuel), 410 N. Henry St, Madison, Wis. *Geology.* Reedsburg, Wis, Oct. 11, 70. B.S, Wisconsin, 94, fellow, 95–96; fellow, Chicago, 96–97; Ph.D, Wisconsin, 98. Field asst, U. S. Geol. Surv, 94–96; asst. geologist, *Wis. Geol. Surv*, 97–99, *geologist, 99–* M.A.A; Geol. Soc; Wis. Acad. Pre-Cambrian geology; mineralogy; glacial and physiographic geology. —Geology of Wisconsin.

Weinzirl, Prof. John, 416 S. Arno St, Albuquerque, N. Mex. *Bacteriology, Climatology, Chemistry.* Eau Galle, Wis, Sept. 10, 70. B.S, Wisconsin, 96, M.S, 98. Asst. prof. biol, *New Mexico*, 98–00, *prof. biol. and chem, 00–* Director, Hadley Climat. Lab, and ed, 'Bul,' 00– M.A.A. Bacteriology of cheese-ripening; climate as related to the cure of tuberculosis; bacterial flora of New Mexico; influence of high altitudes upon the blood; lung capacities in high altitudes; meteorology.—The physiological influence of light, especially in tuberculosis.

Weir, Dr. R(obert) F(ulton), 11 E. 54th St, New York, N. Y. *Surgery.* New York, Feb. 16, 38. A.B, Col. City of N. Y, 54, A.M, 57; M.D, Col. Physicians and Surg, N. Y, 59. Asst. surgeon, U. S. A, 61–65; *surgeon*, St. Luke's Hosp, 65–75; N. Y. Hosp, 76–99; Bellevue Hosp, 81–83; *Roosevelt Hosp, 99–; prof.* clin. surg, *Columbia*, 83–92, surg, 92–03, *clin. surg*, 03– Surg. Ass. (pres, 00); N. Y. Acad. Med. (pres, 01); Greater N. Y. Med. Ass. (pres, 00–02); fel. Phila. Col. Physicians; hon. fel. Royal Col. Surg; cor. mem. Soc. de Chirurg. de Paris. Surgery.

Weis, Dr. Joseph D(eutsch), 1237 Jackson Ave, New Orleans, La. *Medicine.* New Orleans, June 12, 72. Harvard, 91–92, M.D, 98, Austin fellow, 00–02. House officer, Mass. Gen. Hosp, 98–99; asst. histol, Harvard Med. Sch, 99–00, bacter, 02–03; *director, Clinico-Path. Lab, Torno Infirmary, New Orleans, 03–* Visiting physician, Charity Hosp, New Orleans; chief of clinic to chair of med, Tulane. M.A.A; Ass. Path. and Bact; Am. Med. Ass; Mass. Med. Soc; Boston Soc. Med. Sci; La. State Med. Soc; Orleans Parish Med. Soc; New Orleans Med. Research Club. Bacteriology; internal medicine; blood in unciniariasis; etiology of cancer blastomyces.—Hanot's disease.

Welch, Prof. William H(enry), 807 St. Paul St, Baltimore, Md. **Pathology, Bacteriology.* Norfolk, Conn, April 8, 50. A.B, Yale, 70; M.D, Columbia, 75; Strasburg, Leipzig, Breslau and Berlin, 76–78, 84–85. *Prof.* path. anat. and gen. path, Univ. and Bellevue Hosp. Med. Col, 79–84; *path, Hopkins, 84–, pathologist, Hopkins Hosp, 89–* Dean, Med. Faculty, Hopkins, 93–98; pres, Cong. Am. Physicians and Surg, 97; Md. State Board Health, 98–; Board of Trustees, Rockefeller Inst. for Med. Research, 01–; ed, 'Jour. Exp. Med,' 96–04. Hon. M.D, Pennsylvania, 94; LL.D, Western Reserve, 94; Yale, 96; Harvard, 00; Toronto, 03; Columbia, 04. Nat. Acad; F.A.A. (v. pres, 02, 03); Soc. Nat; Ass. Path. and Bact; Soc. Bact; Physiol. Soc; Am. Physicians (pres, 01); Soc. Exp. Biol. and Med; Philos. Soc; assoc. fel. Am. Acad; fel. Phila. Col. Physicians; Md. Med. and Chirurg. Faculty (pres, 91–92); hon. mem. London Path. Soc. Pulmonary edema; organic diseases of the stomach; fever; thrombosis; embolism; diphtheria; micrococcus lanceolatus; a new gas-producing bacillus; hog cholera; surgical infections; glomerulo-nephritis; etc.

Weld, Prof. Laenas G(ifford), 612 N. Dubuque St, Iowa City, Ia. *Mathematics, Astronomy.* Sherwood, Mich, Dec. 30, 62. B.S, Iowa, 83, A.M, 85. Asst. prof. *math, Iowa*, 86–87, acting prof, 87–88, *prof, 89–, dean, Grad. Col, 99–*, director, Sch. Applied Sci, 03–05. State supt, Weights and Measures, Ia, 88– F.A.A. (sec'y, A, 04); Math. Soc; Astron. and Astrophys. Soc. Determinants.

Weller, Prof. Stuart, Walker Museum, University of Chicago, Chicago, Ills. **Geology.* Maine, N. Y, Dec. 26, 70. B.S, Cornell, 94; Ph.D, Yale, 01. Asst. *paleont. geol, Chicago*, 95–97, assoc, 97–00, instr, 00–01, *asst. prof, 01–* Paleontologist, N. J. Geol. Surv, 99–; asst. geologist, U. S. Geol. Surv, 01– Geol. Soc; cor. mem. N. Y. Acad; Chicago Acad; St. Louis Acad. Paleozoic paleontology, especially in its relation to geologic problems.—Paleontology of Cretaceous formations of New Jersey; Kinderhook fauna in the Mississippi Valley.

Wells, Dr. E(liab) H(oratio), Baylor Female College, Belton, Tex. *Mathematical physics, Geology.* Zebulon, Ga, June 27, 36. A.B, Georgia, 55, A.M, 58; M.D, Tulane, 68. Aid, U. S. Coast Surv, 56–58; lieut. engineers, Trans-Miss. Dept, C. S. A, 63–65; civil engineer, 74–78; prof. math, East Texas Univ, 78–79; civil engineer, 79–90; prof. nat. science and higher math, *Baylor Female Col*, 90–95, pres, 95–97, *prof. math, 97–* M.A.A; Tex. Acad. East Texas Tertiary and central Texas Cretaceous formations; shiftings of the Red River, Louisiana, in the alluvial plain south of Alexandria.

—A possible secure pier-foundation in the diluvium of great rivers.

Wells, Dr. H(arry) Gideon, University of Chicago, Chicago, Ills. *Pathology.* New Haven, Conn, July 21, 75. Ph.B, Yale, 95; A.M, Lake Forest, 98; M.D, Rush Med. Col, 98, fellow, 99–00; Ph.D, Chicago, 03. Interne, Cook Co. Hosp, 98–99; asst. *path,* Rush Med. Col, Chicago, 01; assoc, *Chicago,* 01–02, instr, 02–04, *asst. prof, 04–* Ass. Path. and Bact; Soc. Bact; Am. Med. Ass; Chicago Path. Soc. Chemical and general pathology.—The actions of certain enzymes in pathological processes.

Wells, Prof. H(orace) L(emuel), 445 Orange St, New Haven, Conn. **Chemistry.* New Britain, Conn, Oct. 5, 55. Ph.B, Yale, 77, A.M, 94. Asst. chemist, Conn. Agr. Exp. Sta, 78–80; chemist, Colo. Coal and Iron Co, 80–84; instr. chem, *Yale,* 84–89, asst. prof, 89–94, *prof. anal. chem. and metal, 94–* Nat. Acad; Chem. Soc; Conn. Acad. Inorganic cchemistry, especially double halogen salts.—Double and triple salts, especially those containing caesium.

Wells, Dr. James S(impson) Chester, 252 W. 91st St, New York, N. Y. *Chemistry.* Brooklyn, N. Y, Sept. 13, 51. Ph.B, Columbia, 75, Ph.D, 77. Asst. *anal. chem, Columbia,* 75–79, instr, 79–05, *adj. prof, 05–* Electrochem. Soc; London Chem. Soc; Electrochem. Gesell. Electrochemistry; metallurgical chemistry.—Chemistry of the storage battery.

Wells, Roy T(itus), 330 N. Linn St, Iowa City, Ia. *Mathematical physics, Electrical engineering.* Northfield, Mass, Aug. 13, 73. B.S, M.S, Tufts, 98; fellow, Clark, 01–03. *Asst. prof. elec. and mech. eng, Iowa, 03–* Electromagnetism.

Wells, Prof. Webster, Massachusetts Institute of Technology, Boston, Mass. *Mathematics.* Boston, Sept. 4, 51. B.S, Mass. Inst. Tech, 73. Instr. *math, Mass. Inst. Tech,* 73–80, 82–83, asst. prof, 83–85, assoc. prof, 85–93, *prof, 93–* Math. Soc. Mathematics.

Welt, Dr. Ida, 73 W. 83d St, New York, N. Y. *Physiological chemistry.* Vienna, Austria, April 23, 76. Vassar, 91; B.S, Geneva, 95, Ph.D, 96. Privatdocent, Geneva, 96–97; *instr. chem, Girls' High Sch, N. Y. City, 99–* Asst. anal. chem, Geneva, 95–96; lecturer, Brooklyn Inst, 02. Chem. Soc; Soc. Chem. Indust; Soc. chim. de France. Physiological chemistry.

Wende, Dr. Grover W(illiam), 471 Delaware Ave, Buffalo, N. Y. *Dermatology.* Mill Grove, N. Y, April 6, 67. M.D, Buffalo, 89; Pennsylvania, 90; Prague and Paris, 98. *Clin. prof. diseases of the skin, Buffalo, 92–, lecturer dermat. and syphilis, Dental Dept, 94–* Dermatologist, Erie Co, Sisters of Charity, German, Children's and Riverside Hospitals. Ass. Path. and Bact; Dermat. Ass; Am. Med. Ass; Central N. Y. Med. Ass. Rhinoscleroma; favus; sarcoma; edema; porokeratoses; dermatitis; gungnansa; acne treatments; lymphatic leukemia; etc.

Wendell, Prof. George V(incent), Massachusetts Institute of Technology, Boston, Mass. *Physics.* Plainfield, N. J, Aug. 16, 71. B.S, Mass. Inst. Tech, 92; Ph.D, Leipzig, 98; Berlin, 98–99. Asst. *physics, Mass. Inst. Tech,* 92–93, instr, 93–00, asst. prof, 00–04, *assoc. prof, 04–* In charge, Dept. Physics, Simmons (Mass.), 02–04; Boston, 05–06. Physical Soc; Boston Math. and Physical Club. Optics and heat; rotary polarization; heat conduction in gases.

Wenley, Prof. R(obert) M(ark), 509 E. Madison St, Ann Arbor, Mich. *Philosophy.* Edinburgh, Scotland, July 19, 61. Berlin and Strasburg, 80; Paris, 82–83; Rome, 83; Marburg, 84–85; A.M, Glasgow, 84; Sc.D, Edinburgh, 91; Ph.D, Glasgow, 95. Asst. prof. logic, Glasgow, 87–94; lecturer *philos,* in charge, Dept. Philos, Queen Margaret Col, Glasgow, 87–95; *prof, Michigan, 96–* Examiner of degrees, Glasgow, 88–91; sec'y, Univ. Exten. Board, Glasgow, 90–95; lecturer, Glasgow Atheneum, 92–95; Univ. Hall, Edinburgh, 95–96; Theol. Sem, Hartford, Conn, 99–01. LL.D, Glasgow, 01. Philos. Ass; Psychol. Ass; Oriental Soc. (Sect. on History of Relig.); hon. cor. mem. Cal. Philos. Union; fel. Royal Soc. Lit; fel. Edinburgh Royal Soc; London Aristot. Soc; Goethe Soc. (mem. Council, 93–96). Philosophy of religion; metaphysics of science; evolution of religion in the Roman Empire in the first and second centuries.

Wentworth, Prof. G(eorge) A(lbert), Exeter, N. H. *Mathematics, Physics.* Wakefield, N. H, July 31, 35. A.M, Harvard. Prof. math, Phillips Acad, 58–91. Math. Soc. Mathematics.

Wenzell, Prof. W(illiam) T(heodore), 1998 Ocean Boulevard, Cor. P St, San Francisco, Cal. *Chemistry.* Mühldorf, Germany, Jan. 19, 29. Ph.G, Phila. Col. Pharmacy, 55; M.D, La Crosse Med. Col, Wis, 64; M.D, Med. Col. of the Pacific, 76. Prof. chem, Dept. Pharmacy, California, 72–98; chem. and toxicol, Med. Col. of the Pacific, 75–80; Cooper Med. Col, 97–02; *emer. prof. chem, Dept. Pharmacy, California, 98–; Cooper Med. Col, 04–* Chemist, U. S. Appraiser's Dept, San Francisco, 99– Pharm.M, Phila. Col. Pharmacy, 90. Pharmaceutical chemistry; the alkaloids of ergot and ecbolin; the preparation of phosphoric and by moist aerial oxidation; heptane in Pinus sabiniana and Pinus Jeffreyi; determination of the coefficient of expansion of fixed oils; the coloring principles of flowers.—The relation of phosphorus to organic life; a new hydrocarbon in Sequoia sempervirens.

Wernicke, Prof. (August Ludwig) P(aul), 609 S. Limestone St, Lexington, Ky. *Mathematics.* Leipzig, Germany, Jan. 9, 66. Berlin, 86–91; Chicago, summers, 96, 97; Göttingen, 02–03, Ph.D, 03. *Prof. modern lang, Kentucky State, 94–* Math. and linguistic expert, Dept. Int. Research in Terrestrial Magnetism, summer, 03. M.A.A; Math. Soc; Mod. Lang. Ass; Math.

Verein. Analysis situs.—Analysis situs of higher dimensions.

Wesbrook, Dr. F(rank) F(airchild), 906 Fifth St, S. E, Minneapolis, Minn. **Pathology, Bacteriology.* Oakland, Ont, July 12, 68. A.B, Manitoba, 87, A.M, M.D, C.M, 90, John Lucas Walker student (Cambridge, England), 93–95. *Prof.* path, Manitoba, 93; *path. and bacter, Minnesota, 95–* Director, Bacter. Lab, Minn. State Board of Health, 96. Ass. Path. and Bact; Soc. Bact; Physiol. Soc; Am. Physicians; Am. Med. Ass; Pub. Health Ass. (chairman, Lab. Sect, 01–02, pres.); London Path. Soc; British Med. Ass. Anthrax and cholera toxins; immunity; effects of sunlight on bacteria; tetanus and other anaerobes; wandering cells of intestines; metabolism in fever; types of diphtheria bacilli; rabies; Widal reaction; swamp fever in horses; relationships of leucocytes.

West, Dr. Cha(rle)s I(gnatius), 924 M St, N. W, Washington, D. C. *Anthropology, Anatomy, Surgery.* Washington, D. C, Oct. 23, 68. M.D, Howard, 95. Asst. anat, *Howard,* 95–96, demonstrator, 96–02, *lecturer topog. anat, 98–;* first asst. surgeon, Freedman's Hosp, 02–04. Interne, Freedman's Hosp, 95–96, attending physician and gynecologist, 96–02. Ass. Anat; Wash. Medico-Chirurg. Soc. Anatomy of the American negro; human adrenals in their relation to cutaneous differences.

Westfall, Dr. John V(an Etten), Iowa City, Ia. *Mathematics.* Dresserville, N. Y, June 24, 72. B.S, Cornell, 95; Ph.D, Leipzig, 98. *Instr. math, Iowa, 99–* Math. Soc.

Westgate, Dr. Lewis G(ardner), Delaware, O. *Geology.* Phenix, R. I, Oct. 8, 68. A.B, Wesleyan, 90; A.M, Harvard, 92, Ph.D, 96. Teacher science, High Sch, Evanston, Ills, 93–00; *prof. geol, Ohio Wesleyan, 00–* M.A.A; Geol. Soc. Crystallin geology of New Jersey and Connecticut.—Physiography.

Westhaver, Prof. James B, University Park, Colo. *Physics, Physical chemistry.* Lunenburg, N. S, May 21, 62. A.B, Denver, 00, A.M, 02; Ph.D, Leipzig, 04. Principal pub. schools, Valverde, Colo, 92–98; instr. *physics, Denver,* 00–02, *prof, 04–* Behavior of platinum, iridium and rhodium anodes in electrolysis of dilute sulfuric acid.

Westlund, Prof. Jacob, 222 Main St, West Lafayette, Ind. *Mathematics.* Orebro, Sweden, May 18, 67. Upsala and Stockholm, 85–87; Ph.D, Yale, 98. Prof. math. and physics, Bethany (Kas.), 89–96; instr. *math,* Yale, 96–00; *Purdue,* 00–02, *assoc. prof, 02–* Math. Soc; Ind. Acad; Math. Verein. Elliptic functions; theory of numbers.—Class number of cyclotomic number fields.

Weston, Edward, 645 High St, Newark, N. J. **Electrical engineering.* England, May 9, 50. English schools. Electrician, U. S. Elec. Light Co, 81–88; *pres, Weston Elec. Instrument Co.* F.A.A; Elec. Eng. (past pres.).

Weston, Robert Spurr, 14 Beacon St, Boston, Mass. *Sanitary science.* Concord, N. H, Aug. 1, 69. B.S, Amherst, 91; Mass. Inst. Tech, 94–95; Berlin, 96; A.M, Amherst, 04. Asst. in state and munic, sanitary investigations of water supplies, 95–99; *consulting sanitary expert, 99–* Chem. Soc; Soc. Chem. Indust; Civil Eng; Pub. Health Ass; Am. Water Works Ass; Forestry Ass; New Eng. Water Works Ass; Boston Bact. Club; Boston Soc. Civil Eng. The character of water and sewage and methods for their purification.

Weysse, Dr. Arthur W(isswald), Boston University, 12 Somerset St, Boston, Mass. *Biology.* Machias, Me, Nov. 16, 67. A.B, Harvard, 91, A.M, 92, Ph.D, 94; Leipzig, 94–95; Berlin, 95; École de Méd, Paris, 95–96; Naples Zool. Sta, 96. Asst. bot, Harvard, and zool, Radcliffe, 92–94; *instr. biol, Mass. Inst. Tech, 96–; prof. exp. physiol, Sch. of Med, Boston, 99–, biol, Boston, 04–* F.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist; Boston Soc. Med. Sci. Embryology of the Mammalia and other vertebrates.—Chelonian and mammalian development; systematic work on Bermuda Bryozoa.

Wheeler, Dr. Alvin S(awyer), Chapel Hill, N. C. **Chemistry.* Holyoke, Mass, Nov. 2, 66. A.B, Beloit, 90; Chicago, 95; Cornell, 97; A.M, Harvard, 97, Ph.D, 00. Teacher, High Sch, Tacoma, Wash, 93–96; asst. org. chem, Harvard, 97–00; *assoc. prof. chem, North Carolina, 00–* Lecturer org. chem, Summer Sch, Harvard, 05. F.A.A; Chem. Soc. (pres, N. C. Sect, 04, councilor, 05); Chem. Gesell. Reduction of dehydromucic acid; condensations with chloral. —B-heptylamin derivatives; cellulose.

Wheeler, Prof. C(harles) F(ay), U. S. Department of Agriculture, Washington, D. C. *Botany.* Mexico, N. Y, June 14, 42. Michigan, 66–67; B.S, Mich. Agr. Col, 91. Instr. bot, Mich. Agr. Col, 89–95, asst. prof. and consulting botanist to Exp. Sta, 92–02; *expert in charge, Econ. Gardens, Bur. Plant Indust, U. S. Dept. Agr, 02–* M.A.A; Soc. Nat; Bot. Cent. States; Mich. Acad. (v. pres, Bot. Sect.); Acad. Int. Géog. Bot. Cyperaceae.—Distribution of Michigan plants.

Wheeler, E(benezer) S(mith), 76 Delaware Ave, Detroit, Mich. *Engineering.* Wayne Co, Pa, Aug. 27, 39. C.E, Michigan, 67, A.M, 97. U. S. asst. engineer, 64–97; chief engineer, Nicaragua Canal Company, 97–98; *U. S. asst. engineer, 98–* F.A.A; Civil Eng; Mich. Eng. Soc; Franklin Inst. Measurement of base lines; canal construction; physics of the Great Lakes.—Physics of the Great Lakes.

Wheeler, Prof. Henry L(ord), 51 Prospect St, New Haven, Conn. **Chemistry.* Chicago, Ills, Sept. 14, 67. Ph.B, Yale, 90, Ph.D, 93; Munich, 93–94; Chicago, 94–95. Asst. chem, *Yale,* 90–95, instr. *org. chem,* 95–99, *asst. prof, 99–* F.A.A; Chem. Soc; Conn. Acad; London Chem. Soc; Chem. Gesell. Molecular rearrangements; pyrimidins.

Wheeler, Prof. H(erbert) A(llen), 3439 Lucas Ave, St. Louis, Mo. *Mining engineering.* Brooklyn, N. Y, 59. E.M, Columbia, 80. Prof. mining, Washington (St. Louis), 83–95; *consulting engineer, 95–* Asst. geologist, Mo. Geol. Surv, 90–95. Min. Eng; Mech. Eng; Ceramic Soc. (pres, 99); St. Louis Acad. Clays; ore dressing; economic geology.

Wheeler, Director H(omer) J(ay), Kingston, R. I. *Agricultural chemistry.* Bolton, Mass, Sept. 2, 61. B.S, Mass. Agr. Col, 83; Ph.D, Göttingen, 89. Asst. chemist, Mass. Agr. Exp. Sta, 83–87; *chemist, R. I. Agr. Exp. Sta, 89–, director, 01–; prof. geol, R. I. Col. Agr. and Mech. Arts, 89–* M.A.A; Chem. Soc; Ass. Agr. Chemists (pres, 02); Soc. Prom. Agr. Sci; Forestry Ass; Chem. Gesell. Soils; manures; the occurrence of injurious acidity in upland soils; etc.—Crop rotations; grass manuring and composition of the crop; sodium salts and their functions in soils and plants.

Wheeler, Dr. L(ynde) P(helps), 1331 Chapel St, New Haven, Conn. *Physics.* Bridgeport, Conn, July 27, 74. Ph.B, Yale, 94, Ph.D, 02. Lab. asst. physics, *Sheffield Sci. Sch, Yale,* 95–97, asst, 97–01, *instr, 01–* Physical Soc; Conn. Acad. Physical optics; thermodynamics; electrical theory.—Metallic reflection in various media; radio-activity.

Wheeler, Prof. W(illiam) A(rchie), Brookings, S. Dak. *Botany.* Stockton, Minn, June 28, 76. B.Agr, Minnesota, 00, M.S, 01. Asst. hort. and forestry, Minnesota, 97–98, bot, 98–00, instr, 00–01, Sch. Agr, 01–03; *prof. bot. and entom, S. Dak. Agr. Col. and Exp. Sta, 03–* In charge herbarium work, Minn. Bot. Surv, 00–03; botanist, S. Dak. Geol. and Nat. Hist. Surv, 03–Fel. Minn. Bot. Soc. Agricultual botany; fungous diseases of cultivated plants; grasses and forage plants.

Wheeler, Prof. W(illiam) M(orton), American Museum of Natural History, New York, N. Y. **Zoology.* Milwaukee, Wis, March 19, 65. German-American Nor. Col; Ph.D, Clark, 92; Würzburg and Liège, 93–94; Smithsonian table, Naples Zool. Sta, 93–94. Instr. embryol, Chicago, 92–96, asst. prof, 96–99; prof. zool, Texas, 99–03; *curator invert. zool, Am. Mus. Nat. Hist, 03–* Assoc. ed, 'Am. Naturalist' and 'Biol. Bul.' F.A.A; Soc. Nat; Soc. Zool; Psychol. Ass; Tex. Acad; N. Y. Acad; Wash. Acad; cor. mem. Phila. Acad. Embryology of insects; anatomy and embryology of animals, mainly invertebrates; habits and taxonomy of insects; comparative psychology.—North American ants (Formicidae); habits and psychology of ants and other invertebrates.

Wherry, Dr. W(illia)m B(uchanan), 278 Ashland Ave, River Forest, Ills. *Bacteriology.* Lodiana, India, Dec. 24, 75. A.B, Washington and Jefferson, 97; M.D, Rush Med. Col, 01. Asst. bacter, Chicago, 01–02, assoc, 02–03; bacteriologist, Govt. Laboratories, Manila, P. I, 03–05. Soc. Bact; Chicago Path. Soc; Manila Med. Soc.

Whipple, George C(handler), 220 Broadway, New York, N. Y. *Sanitary science.* New Boston, N. H, March 2, 66. B.S, Mass. Inst. Tech, 89. Biologist, Boston Water Works, 89–97; biologist and director, Mt. Prospect Lab, Dept. Water Supply, Gas and Elec, New York, 97–04; *consulting sanitary engineer.* Lecturer micros. exam. of water supplies, Mass. Inst. Tech, 98–00; dept. engineer, Commission on Additional Water Supply, New York City, 03; consulting prof. water supply, Brooklyn Polytech, 04–; consulting chemist and water analyst for several cities; expert for State of Missouri in Chicago Drainage Canal case. F.A.A; Soc. Bact; Chem. Soc; Soc. Chem. Indust; Soc. Munic. Improv; assoc. Civil Eng; Eng. Educ; Pub. Health Ass; Micros. Soc; Am. Water Works Ass; New Eng. Water Works Ass; Brooklyn Eng. Club; fel. Royal Micros. Soc. Microscopy of drinking water; temperature of water; water analysis; water purification; sanitary science; typhoid fever.

Whipple, Prof. Guy Montrose, Cornell University, Ithaca, N. Y. *Psychology, Education.* Danvers, Mass, June 12, 76. A.B, Brown, 97; Clark, 97–98; Ph.D, Cornell, 00. Asst. psychol, Clark, 97–98; *Cornell,* 98–02, lecturer *educ,* 02–04, *asst. prof, 04–* Time order of disparate stimuli; synaesthesia; analysis of recognitory judgment in discrimination of pitch after various time intervals; discrimination of pitch of chords and melodies.—The educational value of various mental tests of students and children; transference of specific habits (formal discipline); legibility of various kinds of type.

White, Prof. Alfred H(olmes), 1017 Hill St, Ann Arbor, Mich. *Chemistry.* Peoria, Ills, April 29, 73. McGill, 89–90; A.B, Michigan, 93; Polytech, Zürich, 96–97; B.S, Michigan, 04. Asst. chem, Illinois, 93–96; instr. *chem. technol, Michigan,* 97–04, *asst. prof, 04–* Chem. Soc; Soc. Chem. Indust. Economic utilization of coal gas; gas analysis.—Theory of the incandescent gas mantle; decomposition of ammonia by heat; formation of nitrides; microscopic examination of hydraulic cement.

White, Dr. C(harles) A(biathar), 330 T St, N. W, Washington, D. C. **Geology, Paleontology, Zoology.* North Dighton, Mass, Jan. 26, 26. M.D, Rush Med. Col, 64; A.M, Iowa (Grinnell), 66. State geologist, Ia, 66–70; prof. nat. hist, Iowa, 67–73; Bowdoin, 73–75; geologist and paleontologist, U. S. Geol. Surv. Territories, (Powell), 75, (Hayden), 75–79; acting curator, U. S. Nat. Mus, 79–95; *assoc. paleont, Smithsonian Inst, 95–* Paleontologist, U. S. Geog. and Geol. Surveys West of 100th Meridian, 74; chief, Artesian Wells Commission on Great Plains, U. S. Dept. Agr, 81; geologist and paleontologist, U. S. Geol. Surv, 83–92. LL.D, Iowa, 93. Nat. Acad; Phila. Acad; St. Louis Acad; Wash. Biol. Soc. (pres, 83–84); Davenport Acad; for. mem. London Geol. Soc; cor.

mem. Dresden Gesell. für Naturkunde; Vienna Geol. Reichsanstalt; Halle Acad. d. Naturforscher; Reale Accad. Valdarnese del Poggio, Montevarchi, Italy. Geology; paleontology; zoology; botany.—Plant mutation.

White, (Charles) David, 1443 Binney St, Washington, D. C. **Paleobotany.* Palmyra, N. Y, July 1, 62. B.S, Cornell, 86. Asst. paleontologist, *U. S. Geol. Surv,* 86–94, asst. geologist, 94–00, *geologist, 00–* Hon. custodian Paleozoic fossil plants, U. S. Nat. Mus. F.A.A; Geol. Soc; Wash. Acad; Wash. Geol, Biol. and Bot. Societies. Stratigraphic study of Paleozoic fossil plants; geological climate.—Flora of the Pottsville formation.

White, Prof. Cha(rle)s H(enry), Rotch Building, Cambridge, Mass. *Mining, Metallurgy.* Yadkin Co, N. C, Aug. 13, 65. Peabody, 85–87; Vanderbilt, 88; B.S, North Carolina, 94; B.S, Harvard, 97, A.M, 01. Instr. geol, Tennessee, 95–96; asst, *Harvard,* 98, instr. *mining and metal,* 99–05, *asst. prof, 05–* Field asst, U. S. Geol. Surv, 98, 03; instr, George Crocker Sch. of Practical Mining, Colo, 04. Min. Eng; Nat. Geog. Soc.

White, Dr. C(harles) J(ames), 259 Marlborough St, Boston, Mass. *Dermatology.* Boston, Dec. 26, 68. A.B, Harvard, 90, M.D, 93; Paris and Vienna, 93–95. Asst. physician *skin diseases, Mass. Gen. Hosp,* 95–03, *physician, 03–;* asst. *dermat, Harvard,* 98–02, *instr, 02–* Consulting dermatologist, Boston Insane Hosp, 03– Ass. Path. and Bact; Dermat. Ass. (sec'y and treas, 02–); Mass. Med. Soc; Boston Soc. Med. Sci; Boston Soc. Med. Improv. Dermatology.

White, Prof. Charles J(oyce), 5 Prescott Hall, Cambridge, Mass. *Mathematics.* Cambridge, Jan. 5, 39. A.B, Harvard, 59, A.M, 62. Asst. prof. and prof. math, later astron. and navigation, U. S. Naval Acad, 61–70; asst. prof. math, Harvard, 70–85, prof, 85–94.

White, Dr. C(ourtland) Y(ardley), (Jr.), 334 S. 16th St, Philadelphia, Pa. *Medicine, Pathology.* Philadelphia, Aug. 12, 73. Central High Sch, Phila, 90–92; M.D, Pennsylvania, 95. Instr. clin. med, *Pennsylvania,* 99–04, lecturer and demonstrator morbid anat, Vet. Dept, 99–05, asst. director, *William Pepper Lab,* 99–05, *assoc. clin. med, 05–* Pathologist, Phila. Zool. Gardens, 01–; Pa. Live Stock Sanitary Board, 03–; Henry Phipps Inst. Tuberculosis, 05; various Phila. hospitals. Ass. Path. and Bact; Am. Med. Ass; Phila. Co. Med. Soc; Phila. Col. Physicians; Phila. Acad; Phila. Path. Soc; Phila. Pediat. Soc. The blood.—General and comparative pathology.

White, Dr. G(eorge) B(enjamin), Cooperstown, N. Y. *Physiological chemistry.* Cooperstown, Jan. 15, 79. Ph.B, Yale, 00, Ph.D, 03. *Asst. director, Dept. Bacter, Hoagland Lab, 03–* Chemist and dairy inspector, Milk Commission, Kings Co. Med. Soc. N. Y. Soc. Physiol. Chemists. A physiological study of nucleic acid from wheat; purin metabolism and allantoin formation.

White, Prof. H(enry) C(lay), University of Georgia, Athens, Ga. *Chemistry.* Baltimore, Md, Dec. 30, 50. B.S, C.E, M.E, Virginia, 70, Ph.D, 87. *Prof. chem,* St. John's (Md.), 71–72; *Georgia, 72–;* state chemist, Ga, 80–90; *chemist and v. director, Ga. Exp. Sta, 88–; pres, Ga. State Col. Agr. and Mech. Arts, 90–* D.C.L, Sewanee, 04; LL.D, Illinois, 05. F.A.A; Chem. Soc; Ass. Off. Agr. Chemists (pres, 81); Ass. Agr. Col. (pres, 89); cor. mem. British Ass; fel. London Chem. Soc. Agricultural chemistry.—Dietary investigations; coefficients of expansion of organic fluids.

White, Prof. H(enry) S(eely), Vassar College, Poughkeepsie, N. Y. **Mathematics.* Cazenovia, N. Y, May 20, 61. A.B, Wesleyan, 82; Ph.D, Göttingen, 90. Tutor math, Wesleyan, 84–87; asst. pure math, Clark, 90–92; assoc. prof. and Noyes prof, Northwestern, 92–05; *prof. math, Vassar, 05–* Assoc. ed, 'Annals of Math,' 99– Math. Soc. (asst. ed, 'Trans,' 02–). Theory of invariants; geometry of curves and surfaces.

White, Dr. Horace, 18 W. 69th St, New York, N. Y. *Economics.* Colebrook, N. H, Aug. 10, 34. A.B, Beloit, 53, A.M, 65. Ed, 'Chicago Tribune,' 65–74; pres, 'N. Y. Evening Post,' 82–03. LL.D, Beloit, 95. F.A.A; Econ. Ass; Archeol. Inst; Am. Geog. Soc; N. Y. Numis. and Archeol. Soc; N. Y. Zool. Soc; Royal Econ. Soc. Banking; finance; Greek literature.

White, Dr. I(srael) C, 141 Willey St, Morgantown, W. Va. **Geology.* Monongalia Co, W. Va, Nov. 1, 48. A.M, West Virginia, 72; Ph.D, Arkansas, 80. Asst. geologist, Pa. Geol. Surv, 75–84; U. S. Geol. Surv, 84–88; prof. geol, West Virginia, 77–92; *state geologist, W. Va, 97–* Mem. Jury of Awards, Columbian Expos; assoc. ed, 'Am. Geologist'; chief, Brazilian Coal Commission, 04–06. Delegate, Int. Geol. Cong, St. Petersburg, 97; Paris, 00. F.A.A. (v. pres, 97); Geol. Soc. (treas, 92–); Philos. Soc; Wash. Geol. Soc; Wash. Acad. Stratigraphy; coal; petroleum; natural gas.—The Appalachian coal fields.

White, Dr. James C(larke), 259 Marlborough St, Boston, Mass. *Dermatology.* Belfast, Me, July 7, 33. A.B, Harvard, 53, M.D, 56. Adj, prof. chem, *Harvard Med. Sch,* 66–71, prof. *dermat,* 71–02, *emer. prof, 02–* Am. Med. Ass; Mass. Med. Soc; fel. Am. Acad; hon. for. mem. Dermat. Societies of London, Berlin, Vienna and Italy. Medicine; dermatology.

White, Dr. J(ames) William, 1810 S. Rittenhouse Square, Philadelphia, Pa. *Surgery.* Philadelphia, Nov. 2, 50. M.D, Ph.D, Pennsylvania, 71. Demonstrator surg, *Pennsylvania,* 81–86, prof. genito-urinary surg, 86–89, clin. surg, 89–00, *John Rhea Barton prof. surg, 00–* Res. physician, Phila. Hosp. and Eastern Penitentiary; surgeon, First Troop, Phila. City Cavalry; inspector, Eastern Penitentiary; visitor, U. S. Mil. Acad. Surg. Ass; Ass. Genito-Urinary Surg; Phila. Col. Physicians. Surgery.

White, Prof. John, Rose Polytechnic Institute, Terre Haute, Ind. *Chemistry.* Poolesville, Md, Feb. 24, 66. A.B, Hopkins, 88, A.M, Ph.D, 91. Asst. *chem,* Cornell, 91–93; instr, Nebraska, 93–97, adj. prof, 97–00, prof, 00–03; *prof. and head, Dept. Chem, Rose, 03–* Acting head, Dept. Chem, Nebraska, 99–00. Chem. Soc; Chem. Gesell. Dissociation of metallic oxids in metallic vapors; molecular weight determinations of the aldehydes and peroxids; the metallic suboxids; physico-chemical researches on the pyridin bases; some double salts of lead. —Complex salts of inorganic and organic acids.

White, Dr. S(olon) Marx, 627 12th Ave, S. E, Minneapolis, Minn. *Pathology, Bacteriology.* Hokah, Minn, July 16, 73. B.S, Illinois, 76; M.D, Northwestern, 97. Interne, Cook Co. Hosp, Chicago, 97–98; demonstrator *path. and bacter, Minnesota,* 98–00, *asst. prof, 00–* Pathologist, St. Barnabas, Northwestern and City Hospitals. Ass. Path. and Bact; Am. Med. Ass; Minn. Acad. Med; Minneapolis Path. Soc; Minneapolis Med. Club. Tuberculous glomerulitis.—Regeneration in the adrenal gland of guinea pigs; lymphosarcomatosis of the intestine; oidiomycosis; hypernephromata.

White, Prof. W(illiam) F(rank), New Paltz, N. Y. *Psychology, Mathematics.* Watkins, N. Y, Aug. 21, 71. A.B, Colgate, 93, A.M, B.D, 96; Ph.D, Denver, 04. Asst. math, Colgate, 93–95, instr. Greek, 95–96; prof. Greek, ethics and pedag, Benedict, and principal, Acad. Dept, 96–97; *prof. math, State Nor. Sch, New Paltz, N. Y, 97–* Teaching of the metric system.—Some phases of pedagogy in elementary schools.

Whiteaves, Dr. J(oseph) F(rederick), 22 Gloucester St, Ottawa, Can. *Paleontology, Zoology.* Oxford, England, Dec. 25, 35. Oxford and London. Curator and rec. sec'y, Montreal Nat. Hist. Soc, 63–75; paleontologist, *Can. Geol. Surv, 76–83, paleontologist, zoologist and asst. director, 83–* LL.D, McGill. Fel. Can. Royal Soc; Manitoba Hist. and Sci. Soc; Montreal Nat. Hist. Soc; London Geol. Soc; Oxford Ashmolean Soc; Yorkshire Philos. Soc. Jurrasic fossils near Oxford; Devonian fishes of Quebec and New Brunswick; Paleozoic and Mesozoic fossils of Canada; recent marine invertebrates of Atlantic and Pacific coasts of Canada.

Whitehead, Dr. Cabell, Nome, Alaska. **Metallurgy, Chemistry.* Lynchburg, Va, Oct. 5, 63. B.M, Lehigh, 85; M.S, Columbian, 96, Ph.D, 98. Assayer, U. S. Assay Office, Boise City, Ida, 85–89; Bur. of the Mint, 89–01. Min. Eng; Chem. Soc; Franklin Inst. Chemistry and metallurgy.—Atomic weight of tellurium.

Whitehead, Prof. John B(oswell), 1016 St. Paul St, Baltimore, Md. *Mathematical physics, Applied electricity.* Norfolk, Va, Aug. 18, 72. E.E, Hopkins, 93, A.B, 98, Ph.D, 02. Electrician, Westinghouse Elec. and Mfg. Co, 93–96; Niagara Falls Power Co, 96–97; instr. *applied elec, Hopkins,* 97–00, assoc, 01–04, *assoc. prof, 04–* Lab. asst, Nat. Bur. Standards, 02; research asst, Carnegie Inst. Physical Soc; Elec. Eng. Inductive electromotive force in transformers; magnetic effect of electric displacement.

Whitehead, Dr. R(ichard) H(enry), University of North Carolina, Chapel Hill, N. C. *Pathology, Anatomy.* Salisbury, N. C, July 27, 65. A.B, Wake Forest, 85; M.D, Virginia, 87. Demonstrator anat, Virginia, 87–89; *prof, North Carolina,* 91–96, *anat. and path, 97–* Ass. Anat. Am. Med. Ass; N. C. Med. Soc. Certain congenital tumors; development of adrenal and testis.—Some features of the development of the testis; nature and function of the interstitial cells of the testis.

Whitfield, Dr. J(ames) Edward, 406 Locust St, Philadelphia, Pa. *Metallurgy, Mining engineering.* Albany, N. Y, Sept. 27, 59. Rensselaer, 80. Asst, U. S. Geol. Surv, 80–88; prof. chem, Nat. Col, Washington, D. C, 84–88; *mem. firm of Booth, Garrett and Blair, Phila, 88–* Hon. Ph.D, Nat. Col, 86. F.A.A; Chem. Soc; Civil Eng; Philos. Soc; Franklin Inst. Meteorites; metallurgy of iron and steel.

Whitfield, Prof. R(obert) P(arr), American Museum of Natural History, New York, N. Y. **Paleontology, Geology.* New Hartford, N. Y, May 27, 28. Self-educated. First asst. curator, State Mus, Albany, N. Y, 70–76; prof. geol. and paleont, Rensselaer, 75–78; *curator, Am. Mus. Nat. Hist, 77–* Hon. A.M, Wesleyan, 82. Mem. Int. Geol. Cong. F.A.A; Soc. Nat; Geol. Soc; Philos. Soc; Am. Geog. Soc; Wash. Acad; Phila. Acad; fel. N. Y. Acad. Paleontology.

Whitford, Dr. H(arry) N(ichols), Bureau of Government Laboratories, Manila, P. I. *Botany.* Manhattan, Kas, March 11, 72. B.S, Kas. State Agr. Col, 90, M.S, 00; Ph.D, Chicago, 03. Instr. biol, Armour Inst, 98–00; asst. bot, Chicago, 00–04; *bot. collector, Bur. Govt. Laboratories, 04–* Collaborator, Bur. of Forestry, U. S. Dept. Agr, 01–04. Bot. Cent. States. Forest ecology in northern Michigan.—Forest ecology in Montana and Rocky Mountains; ecological survey of a sand spit on Long Island, N. Y.

Whiting, Prof. S(arah) F(rances), Wellesley, Mass. *Physics, Astronomy.* Wyoming, N. Y, Aug. 23, 47. A.B, Ingham; Mass. Inst. Tech, 76–79; Berlin, 89; Edinburgh, 96–97. *Prof. physics and physical astron, Wellesley, 79–, director, Whitin Observatory, 04–* Hon. Sc.D, Tufts, 05. F.A.A; Astron. and Astrophys. Soc; Physical Soc.

Whitman, Prof. C(harles) O(tis), 5238 Woodlawn Ave, Chicago, Ills. **Zoology.* Woodstock, Me, Dec. 14, 42. A.B, Bowdoin, 68, A.M, 71; Ph.D, Leipzig, 78; fellow, Hopkins, 79; Naples Zool. Sta, 82. Principal, Westford Acad, 69–72; master English, High Sch, Boston, 72; prof. zool, Imp. Univ. of Japan, 80–81; asst, Harvard, 83–85; director, Allis Lake Lab, 86–89; prof. *zool,* Clark, 89–92; *prof. and head, Dept. Zool, Chicago, 92–, curator, Zool. Mus.* Director, Woods Hole, 88–; ed, 'Jour. Morph'; 'Biol. Bul'; 'Biol. Lectures.' LL.D, Nebraska,

94; hon. Sc.D, Bowdoin, 94. Nat. Acad; F.A.A; mem. Ornith. Union; assoc fel. Am. Acad; Philos. Soc; for. mem. London Linnean Soc. Embryology; natural history.—Evolution of color characters in pigeons; natural history of pigeons; hybridization; morphology and systematics of leeches; embryology of Necturus.

Whitman, Prof. Frank P(erkins), 79 Adelbert St, Cleveland, O. **Physics.* Troy, N. Y, July 29, 53. A.B, Brown, 74; Mass. Inst. Tech, 78–79; Hopkins, 79–80. Instr. science, English and Classical Sch, Providence, R. I, 74–78; *prof. physics,* Rensselaer, 80–85; *Western Reserve, 86–* Hon. Sc.D, Brown, 00. F.A.A. (sec'y, B, 96, v. pres, 98); Physical Soc; Astron. and Astrophys. Soc. Physiological optics; color; color vision.

Whitney, Prof. A(lbert) W(urts), Canyon Road, Berkeley, Cal. *Mathematics.* Geneva, Ills, June 20, 70. A.B, Beloit, 91; fellow, Chicago, 93–95, grad. student, 95–97. Instr. *math,* Nebraska, 97–98; Michigan, 98–99; *California,* 99–04, *asst. prof, 04–* Asst. supervisor, U. S. Census, Oakland, Berkeley and Alameda, Cal, 00. Math. Soc. Theory of probabilities and its applications to statistics, biology and insurance.

Whitney, Prof. Mary W(atson), Vassar College, Poughkeepsie, N. Y. *Astronomy.* Waltham, Mass, Sept. 11, 47. A.B, Vassar, 68, A.M, 72; Harvard, 72; Zürich, 74–76. Teacher, high schools, Waltham and Chelsea, Mass, 72–74; asst, Observatory, *Vassar,* 81–88, *prof. astron, 89–* F.A.A; Astron. and Astrophys. Soc; Math. Soc. Longitude of Smith College Observatory; observations of comets, asteroids, variable stars, etc.

Whitney, Prof. Milton, Bureau of Soils, U. S. Department of Agriculture, Washington, D. C. *Soil physics.* Baltimore, Md, Aug. 2, 60. Hopkins. Asst. chemist, Conn. Agr. Exp. Sta, 83; supt, Exp. Farm, N. C. Exp. Sta, 86–88; prof. agr, South Carolina, and v. director, S. C. Exp. Sta, 88–91; soil physicist, Md. Exp. Sta, 91–94; *chief, Bur. Soils, U. S. Dept. Agr, 94–* Prof. soil physics, Md. Agr. Col, 94–01. Soc. Prom. Agr. Sci; Wash. Geol. Soc. Correlation of soil types of the United States; adaptation of special crops to special soil types; causes of soil fertility.

Whitney, Dr. W(illia)m F(iske), 228 Marlborough St, Boston, Mass. *Anatomy.* Boston, March 26, 50. A.B, Harvard, 71, M.D, 75. *Curator, Anat. Mus, Harvard, 82–* Pathological anatomy.

Whitney, Prof. W(illis) R(odney), Schenectady, N. Y. **Chemistry.* Jamestown, N. Y, Aug. 22, 68. B.S, Mass. Inst. Tech, 90; Ph.D, Leipzig, 94. Asst. instr. chem, *Mass. Inst. Tech,* 90–92, instr, 95–00, asst. prof, 01–04, *non-res. assoc. prof. theoret. chem, 04–; director, Research Lab, Gen. Elec. Co, Schenectady, N. Y, 04–* F.A.A; Elec. Eng; Chem. Soc; Electrochem. Soc; Min. Eng; Franklin Inst; Soc. chim. de Paris. Solubility; colloids; corrosion of iron; chromium sulphate compounds; etc.—Colloids; suspensions; corrosion of iron.

Whitson, Prof. Andrew R(obinson), 1920 Arlington Place, Madison, Wis. *Soils, Drainage.* Stanton, Minn, Oct. 9, 70. Wisconsin, 90–92; B.S, Chicago, 94, grad. student, 94–95, 99–00. Principal, High Sch, Beloit, Wis, 95–99; asst. prof. agr. physics, *Wisconsin,* 00–01, *prof,* 01–05, *soils, 05–* Field asst, U. S. Geol. Surv, 92–93. M.A.A; Wis. Acad. Nitrification in soils.—Relation of proteids in plants to soil; irrigation; soil fertility.

Whittemore, James K(elsey), Cambridge, Mass. *Mathematics.* Cambridge, April 13, 75. A.B, Harvard, 95, A.M, 96. *Instr. math, Harvard,* 95–97, *99–* Math. Soc.

Whitten, Prof. John C(harles), Columbia, Mo. *Horticulture.* Augusta, Me, Sept. 14, 66. B.S, S. Dak. Agr. Col, 92; Cornell, 92; Mo. Bot. Garden, 93, 94; Ph.D, Halle, 02. Instr. in charge hort, S. Dak. Agr. Col, and horticulturist, Exp. Sta, 92; asst, Mo. Bot. Garden, 93–94; *prof. hort, Missouri, and horticulturist, Exp. Sta, 95–* Soc. Prom. Agr. Sci; Pomol. Soc; Mo. Hort. Soc; St. Louis Acad. Relation of color to temperature and hardiness of cultivated plants; breeding for hardy varieties of peaches; development of fruit buds of orchard fruits; plant diseases.

Wickham, Prof. H(enry) F(rederick), 911 E. Iowa Ave, Iowa City, Ia. *Entomology.* Shrewton, England, Oct. 26, 66. Iowa, 87–91, M.S, 94. *Asst. curator, Mus. Nat. Hist, Iowa, 91–,* instr. zool. and later asst. prof, 94–03, *prof. entom, 03–* Iowa Acad; Wash. Entom. Soc; cor. mem. Davenport Acad; hon. mem. Ont. Entom. Soc; cor. mem. Ottawa Field Nat. Club; Soc. entom. de Belgique; Zürich-Hottingen Soc. Entom. Geographical distribution of Coleoptera in North America; larvae of Coleoptera.—Desert faunae.

Wickson, Prof. E(dward) J(ames), University of California, Berkeley, Cal. *Horticulture.* Rochester, N. Y, Aug. 3, 48. A.B, Hamilton, 69, A.M, 72. Lecturer dairy husbandry and agr, *California,* 79–91, assoc. prof. agr, hort. and entom, 91–97, *prof. agr. practise, 97–, dean, Col. Agr, and acting director, Agr. Exp. Sta, 05–* Special agent pomol, U. S. Dept. Agr. San Francisco Micros. Soc. (past pres. and sec'y). Horticulture; irrigation practise.

Wiechmann, Dr. F(erdinand) G(erhard), 814 West End Ave, New York, N. Y. **Chemistry.* Brooklyn, N. Y, Nov. 12, 58. Brooklyn; Berlin; Stuttgart; Ph.B, Columbia, 81, Ph.D, 82; Berlin, 82–83. Instr. chem, Columbia, 83–97, examiner in German and French; lecturer chem. and physics, N. Y. private schools; consulting chemist, *Am. Sugar Refining Co,* 87–04, *mem. tech. staff, 04–* Sec'y, Int. Commission on Uniform Methods of Sugar Anal, Vienna, 98; Paris, 00; Berlin, 03. Fifth Int. Cong. of Applied Chem, 03 (hon. pres, Sect. V). M.A.A; Chem. Soc; Electrochem. Soc; assoc. Elec. Eng; Franklin Inst; fel. N. Y. Acad; fel. London Chem. Soc; Verein Zuckertechniker; hon. mem. Int. Verein Zuckertechniker. Sugar chemistry;

optical physics; expert work in court cases; electrochemical investigations.—Sugar chemistry; electrochemistry.

Wiegand, Dr. K(arl) M(cKay), Ithaca, N. Y. *Botany.* Truxton, N. Y, June 2, 73. B.S, Cornell, 94, Ph.D, 98. Asst. *bot, Cornell, 94–99, instr, 99–* F.A.A; assoc. Bot. Soc; Soc. Plant Morph. and Physiol. Embryology and cytology of phanerogams; histology and physiology; taxonomic revision of several groups of phanerogams.

Wieland, Dr. G(eorge) R(eber), Yale University Museum, New Haven, Conn. *Paleobotany, Paleontology.* Center Co, Pa, 65. B.S, Pa. State, 93; Ph.D, Yale, 00; Pennsylvania; Göttingen. Teacher, Chester, Pa, 95–98; *engaged in research, Yale Mus, 98–* Various explorations in northwest for Yale; two for Am. Mus. Nat. Hist. Conn. Acad. Evolution; Testudinata; living and fossil cycads; paleobotany; geological climate.—Living and fossil cycads; Cretaceous turtles; polar climate in relation to the evolution of plants and animals.

Wight, W(illiam) F(ranklin), U. S. Department of Agriculture, Washington, D. C. *Botany.* Allegan, Mich, 74. B.S, Mich. Agr. Col, 94; A.B, Stanford, 99, A.M, 00. *Asst,* Dept. Syst. Bot, Stanford, 99–00; *Bur. Plant Indust, U. S. Dept. Agr, 00–* M.A.A; Nat. Geog. Soc. Systematic botany.—Flora of Alaska.

Wilbur, A(lbert) B(yron), Middletown, N. Y. *Education.* Sharon, Conn, Oct. 10, 34. A.B, Yale, 58, A.M, 61. Teacher, Riddicksville Sem, N.C, 59–61; supt. pub. schools, and principal, Acad. Dept, Port Jervis, N.Y, 70–84; supt. city schools, and principal, Wallkill Acad, Middletown, N.Y, 86–92. F.A.A.

Wilbur, Dr. R(ay) L(yman), Stanford University, Cal. *Physiology.* Boonesboro, Ia, April 13, 75. A.B, Stanford, 96, A.M, 97; M.D, Cooper Med. Col, 99; London and Frankfurt-on-the-Main, 03–04. Asst. physiol, Stanford, 94–96, instr, 96–97; lecturer and demonstrator, Cooper Med. Col, 99–00; asst. prof, Stanford, 00–03; *practising physician, 04–* Externe, City and Co. Hosp, San Francisco, 99–00; acting head, Dept. Hygiene, Stanford, 01–02; mem. Examining Board of Physicians, Cal, 02–03. F.A.A; Am. Med. Ass; Cal. Acad. Med; Cal. Med. Soc. Acidosis.

Wilcox, Dr. E(arley) V(ernon), Takoma Park, D. C. *Entomology, Veterinary science.* Busti, N. Y, Feb. 16, 69. A.B, Otterbein, 90; A.B, Harvard, 92, A.M, 94, Ph.D, 95. Asst. entom, Ohio Exp. Sta, 90; prof. biol, Montana, 96–99; *assoc. ed, 'Exp. Sta. Record,' 99–* Econ. Entom; Vet. Med. Ass; Oriental Soc; Wash. Entom. Soc. Cytology; entomology; poisonous plants.—Poisonous plants.

Wilcox, Prof. Edwin Mead, Auburn, Ala. *Botany.* Busti, N. Y, May 21, 76. B.S, Ohio State, 96; Harvard, 97–99, A.M, 98, Ph.D, 99, fellow, 99–00. Asst. bot, Ohio State, 94–97; prof. bot. and entom, Okla. Agr. and Mech. Col, 00–01; biol. and hort, Ala. Polytech, 01–04; *prof. bot. and plant physiologist and pathologist, Ala. Exp. Sta, 04–* F.A.A; Soc. Nat. Winter condition of food material in trees; rhizomorphic root-rot of fruit trees.—General physiology and pathological histology.

Wilcox, Prof. G(uy) M(aurice), 6346 Greenwood Ave, Chicago, Ills. *Physics.* Kansas City, Kas, Feb. 2, 70. A.B, Carleton, 91; A.M, Wisconsin, 02. Instr. science, High Sch, Faribault, Minn, 93–96; Albert Lea, Minn, 96–00; *physics,* Wisconsin, 01–03; *prof, Armour Inst, 03–* M.A.A. Optical rotatory power of solutions.

Wilcox, W(alter) D(wight), Metropolitan Club, Washington, D. C. *Geography, Geology.* Chicago, Ills, Sept. 24, 69. A.B, Yale, 93. *Explorer and author.* Delegate from Nat. Geog. Soc. to Paris Expos, 00. Fel. Royal Geog. Soc. Geography and geology of British Columbia and Alberta, Canada.

Wilczynski, Prof. E(rnest) J(ulius), 2337 Telegraph Ave, Berkeley, Cal. **Mathematics.* Hamburg, Germany, Nov. 13, 76. Ph.D, Berlin, 97. Computer, 'Nautical Almanac,' 98; instr. *math, California, 98–02, asst. prof, 02–* Instr, Summer Sch, Columbian, 98; research asst, Carnegie Inst, 04, research assoc, 05; mem. Board of Reviewers, 'Terrestrial Magnetism and Atmospheric Electricity.' Math. Soc. Solar rotation; theory of spiral nebulae; theory of differential equations.—Theory of ruled surfaces and congruences; projective differential geometry.

Wilde, Prof. Norman, 901 Sixth St, S. E, Minneapolis, Minn. *Philosophy.* Dobbs Ferry, N. Y, June 12, 67. A.B, Columbia, 89, A.M, 90; Berlin, 91–93; Harvard, 93–94; Ph.D, Columbia, 94. Asst. philos, Columbia, 94–98; instr, *Minnesota,* 98–00, asst. prof, 00–02, acting prof, 02–03, *prof. philos. and psychol, 03–* Psychol. Ass; West. Philos. Ass. History of English ethics.

Wilder, Prof. Burt G(reen), Cascadilla Place, Ithaca, N. Y. **Vertebrate morphology.* Boston, Mass, Aug. 11, 41. B.S, Harvard, 62, M.D, 66. Med. cadet, asst. surgeon and surgeon, 55th Mass. Inf'y, U.S.A, 62–65; asst. comp. anat, Mus. Comp. Zool, Harvard, 66–68; *prof. neur. and vert. zool, Cornell, 67–* Prof. physiol, Med. Sch. of Me, 75–84; lecturer, Med. Dept, Michigan, 76. F.A.A. (v. pres, 85); Soc. Nat; Ass. Anat. (pres, 98–99); Neur. Ass. (pres, 85); Philos. Soc; Phila. Acad; Boston Soc. Nat. Hist. Habits of spiders; human locomotion; intermembral homologies; structure and habits of ganoids; anatomy of apes and the cat; terminology.—Morphology of the brain; determination and formulation of resemblances and peculiarities of the human brain, especially the pattern of cerebral fissures of the average educated and moral white American.

Wilder, Prof. Frank A(lonzo), Iowa City, Ia. *Geology.* Akron, O, Feb. 2, 70. A.B, Oberlin, 92; Yale, 93; Royal Mining Sch, Freiberg, 01; Ph.D, Chicago, 02. Instr. nat.

sciences, High Sch, Des Moines, Ia, 97–00; asst. state geologist, Ia, 01; assoc. prof. geol, North Dakota, 02–03; *prof. econ. geol, Iowa, 03–; state geologist, Ia, 04–* Geol. Soc; fel. Iowa Acad. Utilization of gypsum and lignite.—Lignite and irrigation in North Dakota.

Wilder, Dr. G(eorge) W(alker), Armour Institute, Chicago, Ills. *Electrical engineering.* Varysburg, N. Y, July 1, 72. B.S, Wisconsin, 96; Polytech, Zürich, 98–00; Ph.D, Zürich, 01. Asst. physics, Wisconsin, 96–98, instr. eng. physics, 01–03; asst. prof. elec. eng, *Armour,* 04–05, *assoc. prof. telephone eng, 05–* Tech. ed, 'Sound Waves,' 03–04. Telephone engineering; the electric arc; conduction of heat through salt solutions.—Simultaneous telegraphy and telephony.

Wilder, Prof. Harris Hawthorne, Dryad's Green, Northampton, Mass. **Zoology.* Bangor, Me, April 7, 64. A.B, Amherst, 86; Ph.D, Freiburg, 91. Teacher, Jefferson High Sch, Chicago, 86–89; Lake View High Sch, 91–92; *prof. zool, Smith, 92–* F.A.A; Soc. Nat; Soc. Zool; Ass. Anat; Anthrop. Ass; Boston Soc. Nat. Hist. Vertebrate anatomy and embryology, especially of amphibians; epidermic markings of palms and soles of primates.

Wiley, Dr. H(arvey) W(ashington), 1314 Tenth St, Washington, D. C. **Chemistry.* Kent, Ind, Oct. 18, 44. A.B, Hanover, 67, A.M, 70; M.D, Indiana Med. Col, 71; B.S, Harvard, 73; Ph.D, Hanover, 76. Prof. Latin and Greek, Butler, 68–70; teacher science, High Sch, Indianapolis, 71; prof. chem, Butler, 74; prof. chem, Purdue, and state chemist, Ind, 74–83; *chief chemist, U. S. Dept. Agr, 83–; prof. agr. chem, George Washington, 99–* Mem. Jury of Awards, Paris Expos; consulting prof, Brooklyn Polytech, 05. LL.D, Hanover, 98. U. S. delegate, Fourth Int. Cong. Applied Chem, 00. F.A.A. (v. pres, 86, sec'y, Council, 90, gen. sec'y, 91); Chem. Soc. (pres, 93, 94); Soc. Chem. Indust; Philos. Soc; hon. mem. Am. Brewing Acad; Franklin Inst; British Federated Inst. Brewers; Verein Zuckertechniker; Soc. sci. d'Hygiène alimentaire. Cultivation of sugar-producing plants and the manufacture of sugar; adulteration of foods; effect of environment in the composition of plants; soil ferments and their importance in agriculture.—Effect of preservatives and colors on health and digestion; composition and changes in aging of distilled spirits.

Wilkins, Dr. George, 898 Dorchester St, Montreal, Can. *Microscopy, Histology, Legal medicine.* Mountrath, Ireland, March 10, 42. M.D, Toronto, 67; M.R.C.S, England, 71; A.M, Bishops Col, 71; M.D, ad eundem, McGill, 82. *Prof.* practical physiol, Bishops Col, 72–82; *legal med. and histol, McGill, 82–* Med. director, Sun Life Ins. Co, 71–; attending physician, Montreal Gen. Hosp, 76–97, consulting physician, 97– Am. Physicians; Montreal Medico-Chirurg. Soc. (pres, 97). Microscopy; clinical medicine.

Willard, Prof. Daniel E(verett), Fargo, N. Dak. *Geology.* Nile, N. Y, Aug. 22, 62. A.B, Alfred 88, A.M, 90; Chicago, 93–95. Principal, Albion Acad, 88–92; *prof.* nat. sciences, N. Dak, State Nor. Sch, 95–03; *geol, N. Dak. Agr. Col, 03–* Principal, High Sch; asst, U. S. Geol. Surv, 02–03. Morainic mapping in North Dakota.—Morainic mapping; extent of the artesian water basin in North Dakota; areal geology.

Willard, Prof. J(oseph) M(oody), State College, Pa. *Mathematics.* Orford, N. H, Feb. 1, 65. A.B, Dartmouth, 87; scholar, fellow, fellow by courtesy, Hopkins, 90–93. Instr. *math,* Pinkerton Acad, Derry, N. H, 87–91; *prof, Pa. State 93–* With U. S. Coast and Geod. Surv, 88–89. Math. Soc. Differential equations of mechanics.—Laplace's equation and electrical phenomena.

Willard, Prof. J(ulius) T(errass), 1211 Moro St, Manhattan, Kas. *Chemistry.* Wabaunsee, Kas, April 9, 62. B.S, Kas. State Agr. Col, 83, M.S, 86; Hopkins, 87–88. Asst. chem, Kas. State Agr. Col, 83–87, asst. chemist, Exp. Sta, 88–97, asst. prof. chem, *Kas. State Agr. Col,* 90–96, assoc. prof, 96–97, *prof.* applied chem, 97–01, *chem, 01–, chemist, Exp. Sta, 97–, director, 00–* Chemist, Kas. State Board of Agr, 97– M.A.A; Chem. Soc; Kas. Acad. (pres, 01). Composition and digestibility of foods and feeds; improvement of sorghum and corn by seed selection based on chemical analysis; soil moisture; nitric acid and ammonia of rain water.—Improvement of corn by seed selection under chemical control; digestion experiments.

Willcox, Prof. M(ary) A(lice), 80 Mountain Ave, Malden, Mass. *Zoology.* Kennebunk, Me, April 24, 56. Newnham Col, England, 80–83; Zürich, 96–98, Ph.D, 98. Teacher, Charlestown High Sch, Boston, 76–79; *prof. zool. and physiol, Wellesley, 83–* F.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist. Comparative anatomy of mollusks.—Comparative anatomy of Acmaeidae.

Willcox, Prof. Walter F(rancis), 3 South Ave, Ithaca, N. Y. *Statistics, Political economy.* Reading, Mass, March 22, 61. A.B, Amherst, 84, A.M, 88; LL.B, Columbia, 87, Ph.D, 91. Chief statistician, U. S. Census Office, 99–02; *prof. polit. econ. and statist, Cornell, 01–, dean, Faculty of Arts and Sciences, 02–; special agent, U. S. Census Office, 02–* N. Y. state commissioner of health, 99–01. F.A.A. (sec'y, I, 02); Statist. Ass; Social Sci. Ass; Econ. Ass. (sec'y, 96–99); Int. Statist. Inst; Royal Statist. Soc. American statistics, especially of population.—Studies in the United States Census.

Willey, Henry, Weymouth, Mass. *Botany, Genealogy.* Geneseo, N. Y, July 19, 24. Nor. Sch, Bridgewater, Mass. Ed, 'New Bedford Evening Standard,' 57–90. Lichens.

Williams, Charles Burgess, North Carolina Department of Agriculture, Raleigh, N. C. *Agricultural chemistry.* Shiloh, N. C, Dec. 23, 71.

B.S, N. C. Col. Agr. and Mech. Arts, 93, M.S, 96; Hopkins, 96–97; Nat. Summer Sch. Agr, Ohio State, 02. Instr. chem, N. C. Col. Agr. and Mech. Arts, 93; asst, N. C. Exp. Sta, 93–96; chemist, Fertilizer Control of N. C, 97–99; *asst. state chemist, N. C, 99–* Mech. analyses of soil, Bur. Soils, U. S. Dept. Agr, 01. M.A.A; Chem. Soc. (sec'y, N. C. Sect, 99–04, pres, 04–); Ass. Off. Agr. Chemists. Agronomy; volumetric determination of phosphoric acid; analysis of soils; iron and alumina in fertilizers.—Determination of SO_3, P_2O_5, K_2O, NH_3 and CaO in soils, if present in sufficient quantity for the best growth of agricultural plants, and their availability.

Williams, Dr. Charles H(erbert), 1069 Boylston St, Boston, Mass. *Medicine, Ophthalmology.* Boston, 50. A.B, Harvard, 71, M.D, 74, A.M, 75. Asst. surgeon and surgeon, Mass. Charitable Eye and Ear Infirmary, 77–87; med. director, Burlington Relief Dept, 89–95; asst. surgeon, Eye Dept, Boston City Hosp. F.A.A; Am. Med. Ass; Ophthal. Soc; Mass. Med. Soc; Ills. Med. Soc; Boston Soc. Med. Sci; Chicago Ophthal. and Otol. Soc. Standards and methods of examining eyes of railway employees for vision and color perception; test types; determination of variations in the position of the axes of the eyes.

Williams, Prof. C(larke) B(enedict), 516 W. South St, Kalamazoo, Mich. *Mathematics.* Corning, N. Y, Dec. 11, 68. Rochester, 96–98; A.B, Princeton, 90, J.S.K. fellow, 90–91; Göttingen, 92–93; Leipzig, 93–94; A.M, Princeton, 95; Leipzig, 01–03. Instr. *math,* Princeton, 92–94; *Olney prof, Kalamazoo, 94–* M.A.A; Math. Soc.

Williams, Prof. Edward H(igginson), Jr, 53 Phillips St, Andover, Mass. *Geology, Mining.* Proctorsville, Vt, Sept. 30, 49. A.B, Yale, 72; A.C, Lehigh, 75, E.M, 76. Mining engineer, Wilkes Barre, Pa, 76–79; supt. of mines, Danville, Pa, 79–80; mining engineer, Cambria Iron Co, Johnstown, Pa, 80–81; prof. mining and geol, Lehigh, 81–02; *private work, 02–* Lecturer mining eng, Lehigh, 02– F.A.A; Geol. Soc; Min. Eng; Philos. Soc. Geology.—Glacial geology of Pennsylvania.

Williams, Dr. Francis H(enry), 505 Beacon St, Boston, Mass. *Medicine.* Uxbridge, Mass. B.S, Mass. Inst. Tech, 73; M.D, Harvard, 77. Instr, Harvard Med. Sch, 84–85, asst. prof. mat. med. and therapeut, 86–88, therapeut, 88–91; *visiting physician, Boston City Hosp, 96–* F.A.A; Am. Physicians; fel. Am. Acad; Climat. Ass; Mass. Med. Soc; Boston Soc. Med. Sci. Diphtheria; diseases of the chest; Röntgen rays.

Williams, Prof. Gardner S(tewart), 1503 Washtenaw Ave, Ann Arbor, Mich. *Hydraulics, Civil and sanitary engineering.* Saginaw City, Mich, Oct. 22, 66. B.S, Michigan, 89, C.E, 99. Engineer, Water Works, various cities, 87–89; draftsman and engineer, Russel Wheel and Foundry Co, Detroit, 90–93; civil engineer, Board of Water Commissioners, Detroit, 93–98; engineer in charge, Hydraul. Lab, and prof. exp. hydraul, Cornell, 98–04; *prof. civil, hydraul. and sanit. eng, Michigan, 04–* Mem. Int. Commission on Navigation of the Great Lakes, 03– Norman medalist, Civil Eng, 02. Civil Eng; Ass. Eng. Societies (mem. Board of Managers, 97–); New Eng. Water Works Ass; Mich. Eng. Soc; Detroit Eng. Soc. (sec'y, 95–97). Waterborne typhoid fever outbreaks in Detroit and elsewhere; flow of water in pipes, channels and over weirs; efficiency of turbines; consumption and distribution of water.—Measurement of water by weirs, floats, current meters and Pitot tube; flow of water in pipes.

Williams, Henry E(ugene), The Windsor, Washington, D. C. *Meteorology.* Bethel, Conn, April 3, 44. Pub. sch. and Acad. Chief, Forecast Div, *U. S. Weather Bur,* 95–98, chief clerk, 98–03, *asst. chief, 03–* Nat. Geog. Soc; Wash. Econ. Soc. The protection of food products from injurious temperatures.

Williams, Prof. H(enry) S(haler), Cornell University, Ithaca, N. Y. **Geology, Paleontology.* Ithaca, March 6, 47. Ph.B, Yale, 68, Ph.D, 71. Asst. paleont, Yale, 68–70; prof. nat. science, Kentucky, 71, 72; asst. prof. *geol,* Cornell, 80–92, prof, 92; Silliman prof, Yale, 92–04; *prof, Cornell, 04–* Assoc. ed, 'Am. Jour. Science,' and 'Jour. of Geol.' Am. commissioner, Int. Cong. of Geol. F.A.A. (sec'y, E, 82, v. pres, 91); Soc. Nat; Geol. Soc; Wash. Acad; Wash. Geol. Soc; Conn. Acad; fel. London Geol. Soc; Soc. géol. du Nord. Devonian paleontology; geological history of organisms; evolution and geographical and geological modification of fossil faunas.—Fossil faunas (Paleozoic) in relation to change of location and variation in time as means of geological correlation and identification of their time relations.

Williams, Dr. Herbert U(pham), 221 North St, Buffalo, N. Y. **Pathology, Bacteriology.* Buffalo, Nov. 28, 66. Michigan, 84–86; M.D, Buffalo, 89; M.D, Pennsylvania, 91; Hopkins, 95; Göttingen, 99. *Prof. path. and bacter, Med. Dept, Buffalo, 93–* Pathologist, Buffalo Gen, Erie Co, Sisters of Charity and other hospitals. Soc. Nat; Ass. Path. and Bact; Am. Physicians; Soc. Exp. Biol. and Med. Trichinosis; pancreatitis; fat necrosis; lymphomatous tumors of dog's spleen; elastic fibers in carcinoma.—Hematozoa of frog.

Williams, Dr. J(ohn) Whitridge, 1128 Cathedral St, Baltimore, Md. *Obstetrics, Gynecology.* Baltimore, Jan. 26, 66. A.B, Hopkins, 86; M.D, Maryland, 88; Berlin and Vienna, 88–89; Leipzig, Prague and Paris, 94–95. Assoc, later assoc. prof. and *prof. obstet, Hopkins, 93–, obstetrician-in-chief, Hopkins Hosp, 99–* F.A.A; Ass. Path. and Bact; Gynec. Soc; S. Surg. and Gynec. Soc; cor. mem. Leipzig Gesell. für Geburtshülfe; Fondateur du Congrès periodique de l' Obstét. et de Gynéc. Anatomy, pathology and bacteriology of female generative tract.—Nature and mode of production of eclampsia; development and diseases of human placenta;

puerperal infection; metabolism of pregnancy.

Williams, Dr. Leonard W(orcester), 89 Brown St, Providence, R. I. *Zoology.* Muskogee, Ind. T, July 8, 75. A.B, Hanover, 95; A.M, Princeton, 99; Ph.D, Brown, 01. Teacher nat. science, Henry Kendall Col, Muskogee, Ind. T, 96–98; instr. comp. anat, *Brown,* 01–02, *asst. prof. biol, 03–* M.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist. Anatomy of cephalopods.

Williams, Dr. Mabel Clare, Iowa City, Ia. *Psychology.* Coralville Ia, Nov. 6, 78. Ph.B, Iowa, 99, fellow, 99–02, Ph.D, 03. Asst. instr. psychol, Iowa, 02–03, instr, 03–04; prof. psychol. and philos, Coe, 04–05. M.A.A; West. Philos. Ass; Iowa Acad. Visual illusions in geometrical forms.

Williams, R(ufus) P(hillips), 86 Washington Ave, Cambridge, Mass. *Chemistry.* Ashfield, Mass, Jan. 3, 51. A.B, Dartmouth, 76; A.M, Harvard, 78; A.M, Dartmouth, 79. Principal, high schools, Lincoln, Weston, North Adams, Mass, and Davenport, Ia, 78–83; *in charge, Chem. Dept, and teacher chem, English High Sch, Boston, 83–* Assoc. ed, Dept. Metrol, 'Sch. Science,' 01– Chem. Soc; New Eng. Ass. Chem. Teachers (pres, 00–02). Early history of chemistry in America; the metric system of weights and measures.

Williams, Prof. S(tephen) R(iggs), Box 150, Oxford, O. *Zoology.* Kalgan, N. China, Aug. 22, 70. A.B, Oberlin, 92, A.M, 93; A.M, Harvard, 98, Ph.D, 00. Teacher, High Sch, Lima, O, 94–96; asst, Zool. Lab, Harvard, 98–00; *prof. biol. and geol, Miami, 00–* M.A.A; Soc. Zool; Nat. Cent. States. Flounders; Myriapoda.—Life history of Scutigerella; relation of the ear of the flatfish to its asymmetry.

Williams, W(illiam) H(ill), Platteville, Wis. *Mathematics.* Kingsbury, N. Y, Nov. 6, 61. A.B, Williams, 84, A.M, 87; Göttingen and Erlangen, 92–94. Principal, Acad, Port Byron, Ills, 85–87; master *math,* Lake Forest Acad, 87–97; *instr, State Nor. Sch, Platteville, Wis, 97–* Math. Soc. Relations between the minors of the Bezont-Sylvester determinants.

Williams, Dr. W(illia)m Whitridge, Hotel Lenox, Boston, Mass. *Medicine.* Baltimore, Md, Sept. 1, 75. A.B, Hopkins, 95, M.D, 99. Res. physician, St. Joseph's Hosp, Baltimore, 99–00; asst. bacter, Prague, 01; path, Harvard, 02–03; *grad. asst, Out-patient Dept, Mass. Gen. Hosp.* Ass. Path. and Bact; Boston Soc. Med. Sci. Aneurism; xanthoma.—Origin and character of exudation cells following experimental peritonitis.

Williamson, E(dward) B(ruce), Bluffton, Ind. *Entomology.* Marion, Ind, July 10, 78. B.S, Ohio State, 98; fellow, Vanderbilt, 00–01. Asst. curator, Carnegie Mus, 98–99; teacher science, High Sch, Salem, O, 99–00; *cashier, Wells Co. Bank, Bluffton, Ind, 00–* Instr. zool, Ind. Biol. Sta, summer, 01. Assoc. Ornith. Union; Ohio Acad. Dragon-flies.—The dragon-flies of Burma and Siam; the genera of dragon-flies of the world (venational characters); Odonata of America.

Williamson, Mrs. M. Burton, University Station, Los Angeles, Cal. *Conchology.* Leeds, England. American private schools; Eliot Sem; Burlington Col; special courses in philos. Conducted Zool. Dept, Summer Sch, Long Beach, Cal, 94; Conchol. Dept, 'Pop. Science News'; Isaac Lea Dept, 'The Nautilus.' M.A.A; Wash. Biol. Soc; S. Cal. Hist. Soc. (v. pres.). Branchiae of Pelecypoda.—West coast pectens; morphology of Aplysia or Tethys of San Pedro Bay.

Willimott, C(harles) W(illiam), 95 Second Ave, Ottawa, Can. *Mineralogy.* Cambridge, England, 52. Grammar sch. *Asst. curator, Can. Geol. Surv, 76–* Curator mineral exhibits, Indian and Colonial Expos, 86; Columbian Expos, 93; Paris Expos, 00. Gems; semi-gems; ornamental stones.

Willis, Bailey, 2115 Bancroft Place, Washington, D. C. **Geology, Physiography.* Cornwall, N. Y, May 31, 57. M.E, Columbia, 78, C.E, 79. Special agent, Tenth Census, 79–81; *geologist,* Northern Transcont. Surv, 81–84; *U. S. Geol. Surv, 84–* Lecturer, Hopkins, 97–03; various official positions, U. S. Geol. Surv; geol. exploration in Eastern Asia, Carnegie Inst, 03– F.A.A; Geol. Soc. Min. Eng; Geog. Ass; Nat. Geog. Soc; Philos. Soc; Wash. Acad; Wash. Geol. Soc; Berlin Gesell. für Erdkunde. Stratigraphic geology and physiography, with special reference to the growth of mountains and continents.—Stratigraphy and physiography of North America, Europe and Asia as a record of continental development.

Williston, Dr. S(amuel) W(endell), University of Chicago, Chicago, Ills. **Paleontology.* Boston, Mass, July 10, 52. B.S, Kas. State Agr. Col, 72, A.M, 75; M.D, Yale, 80, Ph.D, 85. Asst. paleont, Yale, 76–85; asst. ed, 'Science,' 86; demonstrator and prof. anat, Yale, 86–90; prof. geol. and anat. and dean, Med. Sch, Kansas, 90–02; *prof. paleont, Chicago, 02–* Health officer, New Haven, 87–89; State Board of Health, and State Board of Med. Examination, Kas. F.A.A; Geol. Soc; Ass. Anat; Nat. Cent. States; Kas. Acad. (pres, 97); for. cor. London Geol. Soc. Diptera; mososaurs; pterodactyls. —Plesiosaurs; Triassic vertebrates.

Willmott, A(rthur) B(rown), Sault Ste Marie, Ont, Can. *Geology.* Nanticoke, Ont, March 11, 67. A.B, B.S, Victoria (Ont.), 87; A.M, Harvard, 91. Prof. nat. science, Antioch, 88–90; asst. miner, Harvard, 91; prof. geol, McMaster, 92–00; asst, Bur. Mines, Ont, 95–00; *geologist, Lake Superior Co, 00–* Geol. Soc; Min. Eng; Can. Min. Inst; Lake Superior Min. Inst. Pre-Cambrian geology.

Willoughby, C(harles) C(lark), Peabody Museum, Cambridge, Mass. *Anthropology.* Austin teaching fellow, Harvard, 99–01. Chief asst, *Peabody Mus. of Am. Archeol. and Ethnol, Harvard, 94–99, asst. curator, 99–* F.A.A; Anthrop. Ass; Folk-lore Soc; Swedish Soc. Anthrop. and Geol. American archeology and ethnology.

Wills, Prof. A(lbert) P, 44 W. 44th St, New York, N. Y. **Physics.* Waltham, Mass, Feb. 25, 73. B.E.E, Tufts, 94; Ph.D, Clark, 97; Göttingen and Berlin, 98–99. Assoc. applied math. and physics, Bryn Mawr, 99–02; physicist, Cooper Hewitt Lab, 02–03; instr. *mech, Columbia,* 03–05, *adj. prof, 05–* M.A.A; Physical Soc. Magnetic permeability; magnetic shielding; magnetostriction; conduction of electricity in mercury vapor.

Willson, Prof. Fred(eric)k N(ewton), Stony Brook, Princeton, N. J. *Descriptive geometry.* Brooklyn, N. Y, Dec. 23, 55. C.E, Rensselaer, 79. Instr. math, Troy Acad, 72–79; acting prof, Lake Forest, 79–80; *prof. descriptive geom. and tech. drawing, Princeton, 80–* Asst. bookkeeper, Troy City National Bank, 71; foreign correspondent, Drexel, Morgan and Co, 80. Hon. A.M, Princeton. F.A.A; Math. Soc; Mech. Eng; assoc. Civil Eng. Mathematics; graphics; kinematics.—Stereotomy; valve motion.

Willson, Prof. Robert W(heeler), 64 Brattle St, Cambridge, Mass. *Astronomy.* West Roxbury, Mass, July 20, 53. A.B, Harvard, 73; Ph.D, Würzburg, 86. Asst, Argentine Nat. Observatory, 73; Harvard Col. Observatory, 74; tutor physics, Harvard, 75–81; asst. astronomer, Winchester Observatory, Yale, 81–84; instr. *astron. and physics, Harvard,* 91–99, asst. prof, 99–03, *prof, 03–* F.A.A; fel. Am. Acad. Astronomy.—Conduction of heat; terrestrial magnetism; electricity.

Willyoung, Elmer G(rant), 2 Claremont Place, Mount Vernon, N. Y. *Physics, Electrical engineering.* Buffalo, N. Y, June 24, 65. B.S, Michigan, 88. Elec. expert and physicist, Queen and Co, Philadelphia, 88–94; with Elmer G. Willyoung and Co, Phila, 94–99; *pres. and treas, The Willyoung and Gibson Co, N. Y. City, 99–* Elec. Eng; Electrochem. Soc. Scientific instruments.

Wilson, A(lbert) H(arris), University of Illinois, Champaign, Ills. *Mathematics.* Saundersville, Tenn, Feb. 4, 72. B.S, Vanderbilt, 92, fellow, 92–93, M.S, 93; Hopkins, 93–95; Göttingen, 99–00; Bonn, 03–04. *Instr. math,* Princeton, 95–03; *Illinois, 04–* Math. Soc.

Wilson, Dr. Alfred W(illiam) G(unning), McGill University, Montreal, Can. *Physiography, Engineering geology.* Cobourg, Ont, Feb. 6, 73. Victoria (Ont.), 89–92; A.B, Toronto, 93; A.M, Harvard, 99, Ph.D, 01; Columbia, 02; McGill, 02–04. Master science, Napanee Col. Inst, 96–98; geologist, Can. Geol. Surv, 01–02; *demonstrator geol, McGill, 02–* Geol. Soc; Geog. Ass; Can. Min. Eng. Physiography of Ontario; geological and geographical exploration in 'New' Ontario and Keewatin District.—Physiography of the St. Lawrence Valley and lower Great Lakes.

Wilson, Prof. A(ndrew) G(ordon), Hebron, Nebr. *Geology.* Scotch Grove, Ia, April 5, 61. Lenox, 75–80; A.B, Wooster, 84, A.M, 87. Instr. science, Lenox, 84–85, prof. nat. science, 85–02, pres, 97–02; *mining engineer, 02–; hydraul. and elec. engineer, Golden Treasure Placer Mining Co, Idaho, 03–* M.A.A. Dynamical geology and ore deposits; gold and silver deposits in New Mexico.—Electric power transmission.

Wilson, Prof. Cha(rle)s B(ranch), Normal School, Westfield, Mass. **Biology.* Exeter, Me, Oct. 20, 61. A.B, Colby, 81, A.M, 83; Hopkins, 94–96. Instr. bot, Colby, 81–84; private tutor, 84–91; prof. science, State Nor. Sch, Gorham, Me, 91–94; student asst, Hopkins, 95–96; prof. biol, *State Nor. Sch, Westfield, Mass,* 96–97, *head, Dept. Science, 97–* M.A.A; Soc. Nat; Soc. Zool; Boston Soc. Nat. Hist; Springfield Zool. Club (pres, 97, 02–). Nemerteans and gephyreans of North America; development of frogs' eggs in various solutions; North American copepods parasitic on food and other fishes; Argulidae; Caliginae; Elytrophorinae.

Wilson, Prof. D(elonza) T(ate), Case School of Applied Science, Cleveland, O. *Astronomy, Mathematics.* Clinton, N. C. A.B, North Carolina, 87; A.M, Vanderbilt, 96; Ph.D, Chicago, 05. Instr. astron, Cincinnati, 01, 02; computer, U. S. Naval Observatory, 03; *asst. prof. math. and astron, Case, 03–* M.A.A; Astron. and Astrophys. Soc; Math. Soc. Jupiter perturbations of the small planets.—Perturbations; utility of the almucantar for determining star places.

Wilson, Prof. E(dmund) B(eecher), Columbia University, New York, N. Y. **Biology.* Geneva, Ills, Oct. 19, 56. Antioch, 73–74; Chicago, 74–75; Ph.B, Yale, 78; fellow, Hopkins, 79–81, Ph.D, 81; Cambridge and Leipzig, 81–82. Lecturer biol, Williams, 83–84; Mass. Inst. Tech, 84–85; *prof,* Bryn Mawr, 85–91; *zool, Columbia, 92–* LL.D, Chicago and Yale, 01; Hopkins, 02. Nat. Acad; F.A.A; Soc. Nat; Soc. Zool; Soc. Exp. Biol. and Med; Am. Acad; fel. N. Y. Acad; fel. Royal Micros. Soc; assoc. Accad. dei Lincei. Cytology; embryology; experimental morphology.

Wilson, Dr. Edwin Bidwell, Yale University, New Haven, Conn. **Mathematics.* Hartford, Conn, April 25, 79. A.B, Harvard, 99; Ph.D, Yale, 01; Paris, 02–03. *Instr. math, Yale, 00–* Math. Soc; Math. Verein; Int. Ass. Prom. Quaternions. Vector analysis.

Wilson, Dr. E(zra) H(erbert), 194 Keap St, Brooklyn, N. Y. *Bacteriology, Sanitary science.* Port Jefferson, N. Y, Nov. 24, 58. M.D, Columbia, 82. Bacteriologist, Dept. of Health, Brooklyn, 94–98; *director bacter, Hoagland Lab, Brooklyn, 98–* Director, Army Lab, Chicago, 93. Soc. Bact; Ass. Path. and Bact; Pub. Health Ass; hon. mem. Ass. Mil. Surg; Kings Co. Med. Soc; Royal Micros. Soc. Bubonic plague; disinfection.—The bacteriology of milk; antityphoid innoculation.

Wilson, Prof. Francis D(aniel), Blacksburg, Va. *Chemistry.* Chatham, Va, Dec. 3, 71. B.S, Va. Polytech, 94, M.S, 96; Ph.D, Hopkins, 99. Instr. chem. and research asst. to Prof. Michael,

Tufts, 99–00; instr. chem. and miner, *Va. Polytech*, 00–01, asst. prof, 01–02, adj. prof. chem, geol. and miner, 02–04, *prof. chem, 04–* Comparative study of orthosulphaminebenzoic acid and orthocarbaminebenzenesulphuric acid; the chemical changes involved in the weathering of galena.

Wilson, Prof. Geo(rge) A(rthur), 805 Comstock Ave, Syracuse, N. Y. *Logic, Metaphysics.* Wabash, Ind, March 17, 64. Ph.B, Boston, 91, S.T.B, 93, Ph.D, 98. Acting prof. philos, Dickinson, 98; instr, *Syracuse*, 99, asst. prof, 00–01, *prof. logic and metaphysics, 02–* Philos. Ass.

Wilson, Prof. H(enry) V(an Peters), Chapel Hill, N. C. **Biology.* Baltimore, Md, Feb. 16, 63. A.B, Hopkins, 83, fellow, 87–89, Ph.D, 88. Asst, U. S. Fish Commission, 89–91; *prof. biol, North Carolina*, 91–04, *zool, 04–* Director, Beaufort Lab, U. S. Fish Commission, 98–01. F.A.A; Soc. Nat; Soc. Zool; Wash. Biol. Soc; Elisha Mitchell Sci. Soc. (pres, 01, 05); Boston Soc. Nat. Hist. Comparative anatomy, histology and embryology of Medusae, actinians, corals and sponges; embryology of Amphibia and teleosts; systematic zoology of sponges.—Comparative and experimental studies on the life histories of sponges.

Wilson, Prof. H(erbert) C(ouper), 207 Winona St, Northfield, Minn. **Astronomy.* Northfield, Oct. 24, 58. A.B, Carleton, 79, A.M, 82; Ph.D, Cincinnati, 86. Asst. astronomer, Cincinnati Observatory, 81–82, astronomer (pro tem.), 82–84, asst. astronomer, 84–86; computer, Transit of Venus Commission, 86–87; asst. prof. astron, *Carleton*, 87–99, *assoc. prof. math. and astron, 99–* Astron. and Astrophys. Soc. Observations of double stars and comets; celestial photography.—Measurement of photographs for parallax of asteroid Eros.

Wilson, H(erbert) M(ichael), 1825 24th St, Washington, D. C. *Civil engineering, Geography.* Glasgow, Scotland, Aug. 23, 60. C.E, Columbia, 81. Levelman, transitman and party chief, U. S. R. surveys, Mex, 81–82; topographer, *U. S. Geol. Surv*, 82–88, irrigation engineer, 89–91, *geographer, 92–* Lecturer on irrigation, Columbia, 92–93. Civil Eng; Nat. Geog. Soc; Wash. Acad. Geography; irrigation.

Wilson, Prof. J(ames) C(ornelius), 1509 Walnut St, Philadelphia, Pa. *Medicine.* Philadelphia, March 25, 47. A.M, Princeton, 67; M.D, Jefferson Med. Col, 69. Attending physician, Phila. Hosp, 76–90; German Hosp, 90–98; *prof. practise of med. and clin. med, Jefferson Med. Col, 91–; attending physician, Pa. Hosp, 95–; physician-in-chief, German Hosp, 98–* Am. Physicians (pres, 02); Am. Med. Ass; Am. Acad. Med. (pres, 97); Philos. Soc; Climat. Ass. (pres, 04); Wash. Acad; Phila. Co. Med. Soc. (pres, 95–96); fel. Phila. Col. Physicians; Phila. Path. Soc. (pres, 85, 86); Franklin Inst. Clinical medicine.

Wilson, Dr. Louis B(lanchard), 624 Fourth St, S. E, Minneapolis, Minn. *Pathology, Bacteriology.* Pittsburg, Pa, Dec. 22, 66. Pa. State Nor. Sch, 86; M.D, Minnesota, 96. Teacher biol, Central High Sch, St. Paul, 88–96; *senior demonstrator path. and bacter, Minnesota, 97–* First asst. bacteriologist, Minn. State Board of Health, 96– Ass. Path. and Bact; Pub. Health Ass; Am. Med. Ass; Minn. Path. Soc.(pres.). Bacteriology (diphtheria and hemmorrhagic septicaemia groups).—Variations in morphology and virulence of B. diphtheriae; etiology of the so-called spotted fever of the Rocky Mountains.

Wilson, Mrs. L(ucy) L(angdon) W(illiams), 640 N. 32d St, Philadelphia, Pa. *Biology.* St. Albans, Vt, Aug. 18, 65. Ph.D, Pennsylvania, 97. *Prof. biol. and head, Dept. Nature Study and Geog, Phila. Nor. Sch, 92–* Gold medal, Paris Expos, 00; Charleston, 02; silver medal, Pan-Am, 01. Education.—Commercial geography versus physical in elementary schools.

Wilson, N(orman) R(ichard), Wesley College, Winnipeg, Manitoba, Can. *Mathematics.* Coburg, Ont, March 23, 79. A.B, Toronto, 99, A.M, 01. Instr. *math*, Royal Mil. Col, Kingston, Ont, 99–00; *lecturer, Wesley Col, Univ. of Manitoba, 00–* Math. Soc. Group theory.

Wilson, Rev. Robert, 75 Coming St, Charleston, S. C. *Paleontology, Zoology.* Charleston, Oct. 28, 38. Col. of Charleston, 53–55; Virginia, 55–56; M.D, Med. Col. of S. C, 59. Asst. surgeon, C. S. A, 62–65; rector, Claremont Parish, S. C, 66–68; St. Paul's, Kent and St. Peter's, Easton, Md, 68–84; St. Luke's, Charleston, 84–01; *pres, Charleston Library Soc, 98–* D.D, Washington (Md.), 83. Hugenot Soc. (v. pres.); S. C. Audubon Soc. (v. pres.); Huguenot Soc. of S. C. (pres, 99–); Elliott Soc. (pres, 01). Habits of birds of lower South Carolina; paleontology of South Carolina phosphate beds.

Wilson, Dr. W(illiam) P(owell), 640 N. 32d St, Philadelphia, Pa. **Botany, Commerce.* Oxford, Mich, Oct. 17, 44. B.S, Harvard, 78; Sc.D, Tübingen, 80. Teacher various schools; instr. bot, Harvard, 74–77; prof, Pennsylvania, 84–96, director, Sch. of Biol, 90–94; organizer and *director, Phila. Museums, 94–* Commercial attaché to Am. delegation to Pan-Am. Cong. Mexico, 02; mem. many foreign commercial organizations. F.A.A; Soc. Nat; Bot. Soc; Soc. Plant Morph. and Physiol; Ass. Anat; Physiol. Soc; Philos. Soc; Phila. Acad; Wash. Acad; Boston Soc. Nat. Hist; Bot. Gesell. Plant physiology, etc.

Wilson, Prof. Winter L(incoln), Bethlehem, Pa. *Civil engineering.* Cecil Co, Md, Dec. 29, 66. C.E, Lehigh, 88; admitted to bar, 94; M.S, Lehigh, 01. Practising civil engineer, 88–98; instr. civil eng, Lehigh, 98–01; asst. prof. in charge, Dept. Civil Eng, Tulane, 01–04; *asst. prof. civil eng, Lehigh, 04–* Chief engineer, Eastern R. R. of Ala, summer, 02. Civil Eng. Virtual profiles.—Economic construction and operation of railroads.

Winchell, Dr. Alexander N(ewton), 224 S. Excelsior St, Butte, Mont. *Geology, Mineralogy.* Minneapolis, Minn, March 2, 74. B.S, Minnesota, 96, M.S, 97; Sc.D, Paris, 00. Instr. physics, Central High Sch, Minneapolis, 98; miner. expert, U. S. Commission, Paris Expos, 00; *prof. geol. and miner, Mont. Sch. of Mines, 00–* Field asst, U. S. Geol. Surv, 01–; director, Mont. mineral exhibits, La. Purchase Expos, 04; Mont. exhibits, Portland Expos, 05. F.A.A; Geol. Soc; Min. Eng; Nat. Ass. State Mining Schools (sec'y–treas, 04); Mont. Soc. Eng. Petrography of Minnesota gabbroid rocks.—Geology and mineralogy of Montana.

Winchell, Horace V(aughn), 403 W. Broadway, Butte, Mont. *Geology.* Galesburg, Mich, Nov. 1, 65. Minnesota, 83–86; B.S, Michigan, 89. Asst. state geologist, Minn, 89–91; geologist in charge explorations of Mesabi and Vermilion iron ore ranges for Minn. Iron Co, 92–93; consulting mining engineer and geologist, 93–97; *geologist, Anaconda Copper Mining Co, 98–* Assoc. ed, 'Am. Geologist'; 'Zeitschrift für praktische Geol.' Prize, British Min. Eng, 97. Int. Cong. Geol, 92. F.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Mont. Soc. Eng; Minn. Acad; British Fed. Inst. Min. Eng. Value of and modes of extraction of ores and minerals; genesis of ore deposits.—Artificial production of metallic sulphid ores by methods analogous to their formation in nature from solution in ground waters.

Winchell, Prof. N(ewton) H(orace), 113 State St, Minneapolis, Minn. **Geology.* Northeast, N. Y, Dec. 17, 39. A.B, Michigan, 66, A.M, 69. Supt. schools, Port Huron and Adrian, Mich, 66–69; asst, Mich. and Ohio Geol. Surveys, 69–72; state geologist, Minn, 72–00; prof. geol. and miner, Minnesota, 73–77. Geologist, Custer Exped, 74; mem. U. S. Assay Commission, 87; ed, 'Am. Geologist,' 88– F.A.A. (v. pres, 84); Geol. Soc. (pres, 02); Anthrop. Ass; Minn. Acad. (thrice pres.); Wis. Acad; N. Y. Acad; Lake Superior Min. Inst; Minn. Hist. Soc; Quivira Hist. Soc; Buffalo Acad; Soc. miner. de Paris; Soc. Belge de Géol. Geology and mineralogy.—Pleistocene and Archean geology.

Wing, Prof. Cha(rle)s B(enjamin), 345 Lincoln Ave, Palo Alto, Cal. *Civil engineering.* Willow Brook, N. Y, Jan. 18, 64. C.E, Cornell, 86, fellow, 86–87. Instr. civil eng, Cornell, 87–89, asst. prof, 90–91; *prof.* bridge and hydraul. eng, Wisconsin, 91–92; *structural eng, Stanford, 92–* Asst. engineer, various companies, 87–90. Civil Eng; Eng. Educ; Forestry Ass; Pacific Coast Tech. Soc; Int. Ass. Testing Materials. The flow of water in the six foot steel and wood pipe line of the Pioneer Power Co.—Measurement of stresses in bridge trusses under moving loads.

Wing, Prof. H(enry) H(iram), 3 Reservoir Ave, Ithaca, N. Y. *Agriculture.* New York, N. Y, Nov. 29, 59. B.Agr, Cornell, 81, M.S, 91. Asst. director, N. Y. Agr. Exp. Sta, 82–84; adj. prof. agr. and farm supt, Nebraska, 84–88; deputy director and sec'y, Agr. Exp. Sta, *Cornell,* 88–91, asst. prof. animal and dairy husbandry, 91–02, *prof. animal husbandry, 03–* N. Y. State Agr. Soc; N. Y. Dairymen's Ass; Nebr. Dairymen's Ass. (sec'y, 85–88). Feeding of animals; dairy manufacture.

Winslow, Arthur, 84 State St, Boston, Mass. *Mining, Geology.* Salem, N. C, Aug. 5, 60. B.S, Mass. Inst. Tech, 81. Asst. geologist, Pa. Geol. Surv, 81–83; Ark. Geol. Surv, 87–89; state geologist, Mo, 89–94; *private practise and management of mining properties, 94–* Geol. Soc; Min. Eng; Nat. Geog. Soc; St. Louis Acad; St. Louis Eng. Club. Economic geology.

Winslow, Prof. C(harles)-E(dward) A(mory), Hotel Oxford, Boston, Mass. *Bacteriology, Sanitary science.* Boston, Feb. 4, 77. B.S, Mass. Inst. Tech, 98, M.S, 99. Asst. health officer, Montclair, N. J, 98; asst. *biol, Mass. Inst. Tech,* 99–01, instr, 01–05, *asst. prof, 05–* Asst. in engineer's office, Mass. State Board of Health, summers, 99–02. M.A.A; Soc. Nat; Soc. Bact; Statist. Ass; Mass. Ass. Boards of Health; New Eng. Water Works Ass; Boston Soc. Civil Eng; Boston Soc. Med. Sci. Bacteriology of water, sewage and ice; etiology and epidemiology of typhoid fever; vital statistics.—Sewage purification; classification of Coccaceae.

Winston, Isaac, The Portner, Washington, D. C. *Engineering, Geodesy.* Tuscumbia, Ala, Sept. 7, 53. Grad, Va. Mil. Inst, 73. Rodman and cement inspector under Corps Engineers, U. S. A, 76–78; aid and later *asst, U. S. Coast and Geod. Surv, 78–* Ed, 'Publications,' U. S. Coast and Geod. Surv. Delegate of U. S, Int. Geod. Ass, Paris, 00. Nat. Geog. Soc; Wash. Philos. Soc. Precise leveling.

Winton, Dr. A(ndrew) L(incoln), 136 Canner St, New Haven, Conn. *Chemistry.* Westport, Conn, Jan. 26, 64. Ph.B, Yale, 84; Graz; Ph.D, Yale, 04. *Chemist, Conn. Agr. Exp. Sta,* 84–90, *in charge Anal. Lab, 90–; instr. prox. org. anal, Yale, 02–* Chem. Soc; Ass. Off. Agr. Chemists (pres, 98). Chemical and microscopical analysis of agricultural products, etc.—Id; microscopic investigation of vegetable foods.

Wissler, Dr. Clark, American Museum of Natural History, New York, N. Y. *Anthropology, Psychology.* Wayne Co, Ind, Sept. 18, 70. A.B, Indiana, 97, A.M, 99; fellow, Columbia, 00–01, Ph.D, 01. Asst. psychol, Indiana, 95–97; instr. psychol. and educ, Ohio State, 97–99; asst. psychol, Columbia, 99–00; instr. pedag, N. Y. Univ, 01–02; official asst. *ethnol, Am. Mus. Nat. Hist,* 02–05, *curator, 05–;* asst. *anthrop, Columbia,* 03–04, *lecturer, 04–* M.A.A; Psychol. Ass; fel. Ethnol. Soc; Anthrop. Ass. Correlation of mental and physical tests; decorative art and symbolism among the American Indians.—Ethnology of the Blackfeet Indians; morphology of the hard palate in normal and feeble-minded individuals.

Withers, Prof. W(illiam) A(lphonso), West Raleigh, N. C. *Chemistry.* River View, N. C,

May 31, 64. A.B, Davidson, 83, A.M, 85; fellow, Cornell, 89–90. Asst. *chem*, N. C. Agr. Exp. Sta, 84–88; *prof, N. C. Col. Agr. and Mech. Arts, 89–; chemist, N. C. Agr. Exp. Sta, 97–* Teacher chem. and physics, Peace Inst, Raleigh, N. C, 90–93; statistical agent, U. S. Dept. Agr, 95–02, 05–; acting director, N. C. Agr. Exp. Sta, 97–99; mem. Executive Committee, Pure Food and Drug Cong, 98– F.A.A; Chem. Soc. (pres, N. C. Sect, 01–02); Soc. Chem. Indust; Ass. Off. Agr. Chemists (acting pres, 04); Ass. Agr. Col. (chairman, Committee on Pure Food Legislation, 99–). Food adulteration.—Nitrification; availability of plant foods.

Withington, Dr. Charles F(rancis), 35 Bay State Road, Boston, Mass. *Medicine.* Brookline, Mass, Aug. 21, 52. A.B, Harvard, 74, M.D, 81. Instr. clin. med, Harvard Med. Sch, 90–05. Visiting physician, Boston City Hosp, 92–; consulting physician, New Eng. Hosp. for Women and Children; Boston Insane Hosp; asst. ed, 'Boston Med. and Surg. Jour', 82–90. Am. Physicians; Mass. Med. Soc. Clinical medicine.

Witmer, Prof. Lightner, 1510 Walnut St, Philadelphia, Pa. **Psychology.* Philadelphia, June 28, 67. A.B, Pennsylvania, 88, grad. student, 88–91; Ph.D, Leipzig, 92. Asst. exp. psychol, *Pennsylvania*, 90–92, lecturer, 92–94, asst. prof, 92–04, *prof. psychol, 04–* Lecturer psychol, Bryn Mawr, 96–98; psychologist, Pa. Training Sch. for Feeble Minded Children, Elwyn, Pa, 96–; Haddonfield Training Sch, 02–; prof. psychol, Lehigh, 04–06. F.A.A; Psychol. Ass; Nat. Educ. Ass. (mem. Council, 98–02); Soc. Sci. Educ; Philos. Soc; Phila. Acad. Psychological esthetics; comparative tests and measurements; examination and pedagogical treatment of backward children.—The knee-jerk; vocabulary and ideas of school children; psychophysical tests and measurements; comparative psychology; the abnormal child.

Witthaus, Dr. R(udolph) A(ugust), University Club, New York, N. Y. **Chemistry, Toxicology.* New York, Aug. 30, 46. A.B, Columbia, 67; M.D, N. Y. Univ, 75; Paris, 73, 74. *Prof.* chem. and toxicol, Vermont, 78–00; Buffalo, 82–84; N. Y. Univ, 85–98; *chem, physics and toxicol, Med. Col, Cornell, 98–* F.A.A; Chem. Soc; Soc. Chem. Indust; N. Y. State Med. Soc; N. Y. Acad. Med; Chem. Gesell; Soc. chim. de Paris.

Wolbach, Dr. S(imeon) Burt, Harvard Medical School, Boston, Mass. *Bacteriology, Pathology.* Grand Island, Nebr. Lawrence Sci. Sch, Harvard, 97–99, M.D, Harvard, 03. Second asst. *path*, Boston City Hosp, 03–04, first asst, 04–05; *asst, Harvard Med. Sch, 05–* Pathologist, Long Isl. Hosp, Boston. Ass. Path. and Bact; Ass. for Study and Prevention of Tuberculosis; Boston Soc. Med. Sci.

Wolcott, Prof. E(dson) R(ay), Colorado School of Mines, Golden, Colo. *Physics.* Sharon, Wis, April 22, 77. B.S, Wisconsin, 00, fellow, 01–02; Berlin, 02–03. Asst. *physics*, Wisconsin, 00–01; *prof, Colo. Sch. of Mines, 03–* Physical Soc; Nat. Elec. Light Ass; Wis. Acad. Coherers; alternating currents; measurement of resistance of electrolytes.—Radio-activity; radio-active minerals of Colorado.

Wolcott, Dr. Rob(er)t H(enry), University of Nebraska, Lincoln, Nebr. *Zoology, Anatomy.* Alton, Ills, Oct. 11, 68. B.L, Michigan, 90, B.S, 92, M.D, 93; A.M, Nebraska, 95. Asst. zool, *Nebraska*, 94–95, instr, 95–98, adj. prof, 98–02, asst. prof. zool. and demonstrator anat, 02–03, assoc. prof. zool. in charge, Anat. Lab, 03–05, *prof. anat, 05–* With Biol. Surv, Mich. Fish Commission, summers, 93, 94; in charge biol, Missouri, summers, 01, 04, 05. Soc. Nat; Soc. Zool; Ass. Anat; mem. Ornith. Union; Micros. Soc. (sec'y); Nebr. Acad. (pres.); Mich. Acad; Nebr. Ornith. Union (pres.); Mich. Ornith. Club. Vertebrate anatomy; Hydrachnidae; geographical distribution of life, especially fauna of Nebraska; Michigan and Nebraska Lepidoptera; Nebraska ornithology.—North American Hydrachnidae; faunal distribution in Nebraska; anatomy; birds of the Sand-hill region of Nebraska; color variation in the tiger-beetles of Nebraska.

Wolcott, Townsend, 39 Whitehall St, New York, N. Y. *Electrical engineering.* New York, N. Y, July 18, 57. Common sch; private study. *Practising elec. engineer, 90–, elec. engineer, Signal Corps, U. S. A, 99–* Elec. Eng; Electrochem. Soc. Theory of potential functions; conservation of energy.

Wolf, Dr. C(harles) G(eorge) L(ewis), Cornell University Medical College, New York, N. Y. *Physiological chemistry.* London, England, Nov. 6, 72. A.B, Manitoba, 90; M.D, C.M, McGill, 94. *Instr. physiol. chem, Med. Col, Cornell, 00–* Soc. Exp. Biol. and Med. β-ketonic esters; tantomerism; tetraphosphorus-trisulfid; azoimid; metabolism of sulfur; pharmacology of the rare earths.

Wolfe, Dr. H(arry) K(irke), Lincoln, Nebr. **Psychology.* Bloomington, Ills, Nov. 10, 58. A.B, Nebraska, 80; Ph.D, Leipzig, 86. Prof. philos, Nebraska, 89–97; supt. pub. schools, South Omaha, Nebr, 98–01; principal, High Sch, Lincoln, Nebr, 02–05; *prof.* philos. and educ, Montana, 05–06; *educ. psychol, Nebraska, 06–* West. Philos. Ass. Psychology; pedagogy.

Wolff, Prof. Frank A(lfred), 1429 R St, N. W, Washington, D. C. **Physics, Electrical engineering.* Baltimore, Md, April 8, 71. A.B, Hopkins, 90, fellow, 92–93, Ph.D, 93; Leipzig, 94. *Prof.* physics and elec. eng, *George Washington, 95–04, elec. eng, 04–; assoc. physicist, Bur. Standards, 01–* Physicist, Div. of Soils, U. S. Dept. Agr; examiner, Civil Service Commission; verifier, Office Standard Weights and Measures. F.A.A; Physical Soc; assoc. Elec. Eng; Electrochem. Soc; Wash. Philos. Soc. Effect of magnetism on chemical action; the verification of electrical standards and electrical measuring apparatus; the accuracy of Ohm's law; the standard cell; the international electrical units.

Wolff, Prof. John E(liot), University Museum, Cambridge, Mass. **Mineralogy, Petrography.* Montreal, Can, Nov. 21, 57. A.B, Harvard, 79; Heidelberg, 84–85; Ph.D, Harvard, 89. Asst. geologist, U. S. Geol. Surv, 85–04; instr. petrog, *Harvard,* 86–92, asst. prof, 92–95, *prof. petrog. and miner. and curator, Miner. Mus, 95–* F.A.A; Geol. Soc; fel. Am. Acad; Boston Soc. Nat. Hist. Petrography; mineralogy; geology. —Geology and petrography of Green Mountains, Vt, and of New Jersey and Montana.

Woll, Prof. F(ritz) W(ilhelm), 424 Charter St, Madison, Wis. *Agricultural chemistry.* Bergen, Norway, May 23, 65. B.S, Royal Frederiks Univ, Christiania, 82, Ph.B, 83; M.S, Wisconsin, 86, Ph.D, 04. Asst. chemist, Wis. Agr. Exp. Sta, 87–93; asst. prof. agr. chem, *Wisconsin,* 93–04, *chemist to Exp. Sta, 93–, assoc. prof. agr. chem, 04–* Reporter on analysis of cattle foods, Ass. Off. Agr. Chemists, 93. F.A.A; Wis. Acad. Agricultural and dairy chemistry.

Wood, Prof. Arthur J(ulius), State College, Pa. *Mechanical and electrical engineering.* Roseville, N. J, Sept. 3, 74. M.E, Stevens, 96. Assoc. ed, 'Railroad Gazette', N. Y. City, 96–00; instr. mech. eng, Worcester, 00–02; prof. mech. and elec. eng, Delaware, 02–04; *asst. prof. exp. eng, Pa. State, 04–* F.A.A; Mech. Eng; Elec. Eng; Eng. Educ. (mem. Council, 99–02). Hydraulic rams; properties of cold-drawn steel; acceleration of trains; magnetic properties of wrought iron; lubrication.—Physical properties of special steels, principally cold-drawn; acceleration of steam and electric cars; value of 'n' and method of obtaining the same for adiabatic expansion in gas engines, in equation $pv^n = c$; the inertia governor.

Wood, Dr. F(rancis) C(arter), 437 W. 59th St, New York, N. Y. *Pathology.* Columbus, O, Dec. 30, 69. B.S, Ohio State, 91; M.D, Columbia, 94; Berlin and Vienna, 96. Interne, *St. Luke's Hosp,* 94–96, *pathologist, 96–; asst. clin. path, Columbia,* 96–98, instr, 98–04, *adj. prof, 04–* Registrar, St. Luke's Hosp, 98–02. Ass. Path. and Bact; N. Y. Path. Soc. (sec'y, 01, ed, 'Proc,' 02–). Pathology; endothelial tumors; blood regeneration after poisoning; precipitines produced by immunizing animals.

Wood, Dr. H(oratio) C, 1925 Chestnut St, Philadelphia, Pa. **Medicine, Physiology, Botany.* Philadelphia, Jan. 13, 41. M.D, Pennsylvania, 62. Prof. bot, *Pennsylvania,* 66–76, clin. prof. diseases of the nervous system, 75–02, *prof. therapeut, 76–* Visiting physician, St. Agnes, Episcopal, Phila. and Univ. Hospitals, Phila, 70–90; ed, 'New Remedies,' 70–73; 'Phila. Med. Times,' 73–80; 'Therapeut. Gazette,' 84–90; pres, U. S. Pharmacopœial Convention, 90–; chief ed, 'U. S. Dispensatory.' LL.D, Lafayette; Yale; Pennsylvania. Nat. Acad; Am. Physicians; Physiol. Soc; Am. Acad; Phila. Col. Physicians (pres, 02–03). Therapeutics; thermic fever or sunstroke; brain work and overwork; nervous diseases; medical botany; entomology; experimental pharmacology; physiology; pathology.

Wood, Prof. R(obert) W(illiams), 815 St. Paul St, Baltimore, Md. **Experimental physics.* Concord, Mass, May 2, 68. A.B, Harvard, 91; Hopkins, 91–92; Chicago; Berlin, 92–94. Instr. physics, Wisconsin, 97–98, asst. prof, 98–00; *prof. exp. physics, Hopkins, 01–* Silver medal (diffraction process of color photography), London Soc. of Arts, 00. F.A.A; Physical Soc; Astron. and Astrophys. Soc; fel. London Physical Soc; hon. fel. Royal Micros. Soc. Various problems in light.—Anomalous dispersion of metallic vapors; electrical resonance of metal particles for light waves; fluorescence and magnetic rotation of vapors; etc.

Wood, Dr. Ruth G(oulding), 101 Maynard St, Pawtucket, R. I. *Mathematics.* Pawtucket, Jan. 29, 75. B.L, Smith, 98; fellow, Yale, 00–01, Ph.D, 01. *Instr. math,* Mt. Holyoke, 01–02; *Smith, 02–* Math. Soc. Non-Euclidean geometry.

Wood, Dr. Thomas D(enison), 417 W. 118th St, New York, N. Y. *Physical education, School hygiene.* Sycamore, Ills, Aug. 2, 65. A.B, Oberlin, 88, A.M, 91; M.D, Columbia, 91. *Prof.* hygiene and org. training, Stanford, 91–01; *physical educ, Teachers Col, Columbia, 01–* Mem. Int. Commission Physical Educ, 00. F.A.A; Ass. Adv. Physical Educ; Am. Med. Ass. School hygiene.

Woodbridge, Prof. Frederick J(ames) E(ugene), Columbia University, New York, N. Y. *Philosophy.* Windsor, Ont, March 26, 67. A.B, Amherst, 89, A.M, 96. Instr. philos, Minnesota, 94–95, prof. and head, Dept. Philos. and Psychol, 95–02; *prof. philos, Columbia, 02–* Ed, 'Jour. Philos, Psychol. and Scientific Methods,' 04– LL.D, Amherst, 03. F.A.A; Philos. Ass; Psychol. Ass; West. Philos. Ass. (pres, 92); fel. N. Y. Acad. Greek philosophy. —The metaphysics of Aristotle; logic and metaphysics.

Woodbridge, Prof. S(amuel) Homer, Massachusetts Institute of Technology, Boston, Mass. *Sanitary engineering.* Perth Amboy, N. J, Dec. 26, 48. A.M, Williams, 73; Mass. Inst. Tech, 77. Asst. physics, *Mass. Inst. Tech,* 83–84, instr, 84–95, lecturer *heating and ventilation,* 84–90, asst. prof, 95–00, *assoc. prof, 00–* Ventilation.

Woodbury, C(harles) J(eptha) H(ill), 51 Baltimore St, Lynn, Mass. *Civil engineering.* Lynn, May 4, 51. Mass. Inst. Tech, 69–73. Engineer, Assoc. Factory Mutual Ins. Companies, 78–87; v. pres, Boston Mfrs. Mutual Fire Ins. Co, 87–94; *asst. engineer, Am. Bell Telephone Co, 94–* Non-res. lecturer, Cornell, Harvard, Columbia and Mass. Inst. Tech; sec'y, Nat. Conference on Standard Elec. Rules. John Scott medal, 84; medal, Soc. Indust. de Mulhouse, 83; hon. A.M, Tufts, 93. F.A.A. (sec'y, D, 85); Civil Eng; Elec. Eng; Mech. Eng. (v. pres, 87–89); cor. mem. Numis. and Archeol.

Soc; New Eng. Cotton Mfrs. Ass. (sec'y and treas, 94); hon. mem. New Eng. Telephone Soc; hon. mem. N. Y. Telephone Soc. Applications of engineering to reduction of fire loss; modern mill construction; measurements of friction of lubrication; electric lighting and transmission of power; development of automatic sprinklers; fire protection of mills; electrical fire hazard; telephone line engineering.

Woodhull, Prof. John F(rancis), Teachers College, Columbia University, New York, N. Y. *Physical science.* Westport, N. Y, July 2, 57. A.B, Yale, 80; Ph.D, Columbia, 99. Teacher, High Sch, Bloomfield, N. J, 81–82; principal, Chicopee, Mass, 83–85; teacher science, State Nor. Sch, New Paltz, N. Y, 86–87; *prof. physical science, Teachers Col, Columbia, 88–* Lecturer, Marthas Vineyard Summer Sch, Nat. Summer Sch. and Chautauqua, 87–94. F.A.A; fel. N. Y. Acad.

Woodman, A(lpheus) G(rant), 35 Highland Ave, Cambridge, Mass. *Sanitary chemistry.* Kingston, Mass, Oct. 30, 73. B.S, Mass. Inst. Tech, 97. Asst. *chem, Mass. Inst. Tech,* 97–00, *instr, 00–* Assoc. ed, 'Rev. Am. Chem. Research,' 01–02. Chem. Soc; Ass. Off. Agr. Chemists. Analytical chemistry of air, water and food; the differentiation of organic matter in water; the detection of added water in milk. —The detection and estimation of benzoic acid in fruit products; the composition of malt vinegar.

Woodman, Dr. Durand, 127 Pearl St, New York, N. Y. *Chemistry.* New York, Sept. 16, 59. B.S, Stevens, 80, Ph.D, 87; Berlin and Lab. of Fresenius, Wiesbaden, 89–90. Asst. to Prof. H. Wurtz, 81–82; Lab, U. S. Elec. Light Co, 83–87; *consulting chemist and expert, 90–* F.A.A; Chem. Soc. (rec. sec'y, 89, sec'y and treas, N. Y. Sect, 95–01); Soc. Chem. Indust; Chem. Gesell; Chem. Verein.

Woodman, Prof. J(oseph) Edmund, Dalhousie University, Halifax, N. S, Can. *Geology.* Newbury, Mass, July 3, 73. B.S, Harvard, 96, A.M, 00, Sc.D, 02. Asst. geol, Harvard and Radcliffe, 96–02; *asst. prof. geol. and miner, Dalhousie, 02–* Instr, Summer Sch, Harvard, 97– Geol. Soc; Min. Eng; Boston Soc. Nat. Hist; N. S. Inst; N. S. Min. Soc. Physiography of seacoasts; geology of Nova Scotia gold-bearing rocks.—History of coal basins of Nova Scotia; igneous and solfatoric phenomena of gold-bearing rocks of Nova Scotia; glacial history of maritime provinces.

Woodruff, E(lmer) G(rant), Norman, Okla. *Mineralogy, Geology.* Bradford Co, Pa, 72. B.S, Nebraska, 01, fellow, 03–04, A.M, 04. *Instr. miner, Oklahoma, 04–, in charge, Dept. Geol, 05–* Asst, U. S. Geol. Surv, 04, 05. Nebr. Acad. Geology.—Oils of Oklahoma; sudden rises of some western rivers.

Woodruff, Dr. E(ugene) C(yrus), James Millikin University, Decatur, Ills. *Physics, Physical chemistry.* St. Clair, Mich, April 8, 71. B.S, Michigan, 94, M.S, 96, Ph.D, 00. Teacher science, High Sch, Ludington, Mich, 94–95; Coldwater, Mich, 96–97; Chicago, 97–98; chem, Mont. State, 00–01; science, High Sch, La Grange, Ills, 01–03; physics, Lakeview High Sch, Chicago, 03–04; *prof. physics and elec. eng, James Millikin, 04–* Central Ass. of Sci. and Math. Teachers (treas, 02–04). Organic color reactions with nitric acid; elasticity of steel and temperature; tuning-forks.—Dissociation in gas batteries; effect of temperature on the logarithmic decrement of a vibration.

Woodruff, Dr. Lorande Loss, Williams College, Williamstown, Mass. *Zoology.* New York, N. Y, July 14, 79. Col. City of N. Y, 96–99; A.B, Columbia, 01, A.M, 02, Ph.D, 05. Asst. *biol, Williams,* 03–04, *instr, 04–* Instr. zool, Woods Hole, 05– M.A.A; Soc. Exp. Biol. and Med. Life-history of Protozoa.—Rhythms and cycles in the life-history of Infusoria.

Woods, Albert F(red), Piney Branch Road, Takoma Park, D. C. **Plant physiology and pathology.* Belvidere, Ills, Dec. 25, 66. B.S, Nebraska, 90, A.M, 92. Asst. bot, Nebraska, 90–93; asst. chief, *Div. Veg. Physiol. and Path, U. S. Dept. Agr,* 94–00, *chief, 01–* Pathologist and physiologist and asst. chief, Bur. Plant Indust, U. S. Dept. Agr, 01. F.A.A; Bot. Soc; Soc. Plant Morph. and Physiol; Soc. Prom. Agr. Sci; Wash. Acad; Wash. Bot. Soc. (pres.); Bot. Gesell. Plant pathology; plant nutrition; enzymes, especially in relation to pathology.—Oxidation processes in plant cells; oxidizing enzymes in plant and animal cells; causes of increasing or decreasing resistance of plants to certain diseases.

Woods, Prof. Cha(rle)s D(ayton), Orono, Me. *Chemistry.* Brooks, Me, Sept. 11, 56. B.S, Wesleyan, 80. Asst. chem, Wesleyan, 80–83; instr. sciences, Wilbraham Acad, 83–88; chemist and v. director, Storrs Agr. Exp. Sta, 88–96; prof. agr, Maine, 96–03, *director, Maine Agr. Exp. Sta, 96–* Expert in food investigations, U. S. Dept. Agr, 94– Hon. Sc.D, Maine, 05. F.A.A; Chem. Soc; Soc. Prom. Agr. Sci. Agricultural and physiological chemistry.—Food of man; nutrition of animals and plants.

Woods, Dr. F(rederick) Adams, 1006 Beacon St, Brookline, Mass. *Embryology, Biology.* Boston, Mass, Jan. 29, 73. Mass. Inst. Tech; M.D, Harvard, 98. Asst. *histol. and embryol,* Harvard, 98–01, instr, 01–02; *lecturer, Mass. Inst. Tech, 03–* Instr. comp. histol, Harvard Vet. Sch, 99–01. F.A.A; Ass. Anat; Boston Soc. Nat. Hist. Origin of the germ cells; physical heredity; mental and moral heredity in royalty; heredity of coloration in animals. —Psychical problems in heredity and their relation to history.

Woods, Prof. F(rederick) S(henstone), 123 Sumner St, Newton Centre, Mass. **Mathematics.* Monson, Mass, March 8, 64. A.B, Wesleyan, 85, A.M, 89; Ph.D, Göttingen, 94. Asst. physics and astron, Wesleyan, 85–86; teacher *math,* Genesee Sem, Lima, N. Y, 86–90; instr, *Mass.*

Inst. Tech, 90–95, asst. prof, 95–03, *assoc. prof, 03–* Lecturer math, Harvard, 98–99; ed, 'Annals of Math,' 00– Math. Soc. Non-Euclidean geometry.

Woods, Dr. James H(aughton), 2 Chestnut St, Boston, Mass. *Philosophy.* Boston, Nov. 27, 64. A.B, Harvard, 87; Episcopal Theol. Sch, 88–89; Oxford and Berlin, 90–91; Berlin and Strasburg, 94–97; Ph.D, Strasburg, 97. Asst. hist, *Harvard*, 92–93, lecturer philos, 00–01, *instr.* anthrop. and philos, 01–02, *philos, 03–* Folk-lore Soc; Oriental Soc; Morgenlandische Gesell. Science of religion; Indian philosophy. —The classical philosophies and the religions of India.

Woodward, Prof. C(alvin) M(ilton), 3013 Hawthorne Boulevard, St. Louis, Mo. *Mathematics, Applied mechanics.* Fitchburg, Mass, Aug. 25, 37. A.B, Harvard, 60. Principal, High Sch, Newburyport, Mass, 60–65; v. principal, Smith Acad, St. Louis, 65–70; *prof.* descriptive geom, *Washington (St. Louis)*, 70–71, *math. and applied mech, 71–, dean, Sch. of Eng*, 71–96, *01–* Capt, Co. A, Mass. 48th Regt, 62–63; pres, Board of Regents, Missouri, 91–97; Board of Educ, St. Louis, 97– Hon. Ph.D, Washington (St. Louis), 82, LL.D, 05. F.A.A. (sec'y, I, 99, v. pres, 00, 03, acting v. pres, 04, pres, 05); Eng. Educ. (past pres.); St. Louis Eng. Club (past pres.). Manual training; mechanics.—History of St. Louis Bridge; planetary equinoxes; relative efficiency of involute and epicycloidal gearing; methods of manual training; etc.

Woodward, Prof. R(obert) S(impson), Carnegie Institution, Washington, D. C. **Astronomy, Geodesy, Mathematics, Physics.* Rochester, Mich, July 21, 49. C.E, Michigan, 72, Ph.D, 92. Asst. engineer, U. S. Lake Surv, 72–82; asst. astronomer, U. S. Transit Venus Commission, 82–84; astronomer, U. S. Geol. Surv, 84–90; asst, U. S. Coast and Geod. Surv, 90–93; prof. mech. and math. physics, Columbia, 93–05; *pres, Carnegie Inst, 05–* Assoc. ed, 'Annals of Math,' 88–99; 'Science,' 94– LL.D, Wisconsin, 04; hon. Sc.D, Columbia, 05. Nat. Acad; F.A.A. (v. pres, 89, treas, 94–, pres, 00); Astron. and Astrophys. Soc; Physical Soc; Math. Soc. (pres, 97–99); Geol. Soc; Am. Acad; Philos. Soc; fel. N. Y. Acad. (pres, 00–02); Wash. Acad. Astronomy; geodesy; geophysics; mathematics; mechanics; mathematical physics.—The mass of the atmosphere; the gravitation constant; variation of latitudes; length of the day; gravimetric measures.

Woodworth, Prof. C(harles) W(illiam), 2043 Lincoln St, Berkeley, Cal. *Entomology.* Champaign, Ills, April 28, 65. B.S, Illinois, 85, M.S, 86; Harvard, 86–88, 00–01. Asst, Ills. State Lab. Nat. Hist, 84–86; entomologist and botanist, Ark. Agr. Exp. Sta, 88–91; asst. prof. *entom, California*, 91–04, *prof, 04–* M.A.A. Economic entomology.

Woodworth, Prof. J(ay) B(ackus), 24 Langdon St, Cambridge, Mass. **Geology.* Newfield, N. Y, Jan. 2, 65. B.S, Harvard, 94. Instr. *geol, Harvard*, 93–01, *asst. prof, 01–* Asst, U. S. Geol. Surv, 88–03; N. Y. State Mus, 00– Mem. Int. Cong. Geol, 00. M.A.A; Geol. Soc; Nat. Geog. Soc; Am. Acad; Boston Soc. Nat. Hist. Structural geology; glacial deposits of southern New England; geology of Narragansett and Richmond Coal basins; the Hudson and Champlain Valleys at the close of the last glacial epoch.—Glacial geology of New York.

Woodworth, Dr. R(obert) S(essions), Columbia University, New York, N. Y. **Physiology, Psychology.* Belchertown, Mass, Oct. 17, 69. A.B, Amherst, 91; A.B, Harvard, 96, A.M, 97; Ph.D, Columbia, 99; Edinburgh, 00; fellow, Liverpool, 02. Teacher science and math, High Sch, Watertown, N. Y, 91–93; instr. math, Washburn, 93–95; asst. physiol, Harvard Med. Sch, 97–98; instr, Univ. and Bellevue Hosp. Med. Col, 99–02; demonstrator, Liverpool, 02–03; instr. *psychol, Columbia*, 03–05, *adj. prof, 05–* F.A.A; Physiol. Soc; Psychol. Ass; Philos. Ass; Soc. Exp. Biol. and Med; fel. N. Y. Acad. Psychology of movement and training; fatigue; smooth muscle; heart muscle; electrochemistry of nerve; spinal pathways; cerebral localization.—Fatigue; muscular training; psychology of movement; Weber's law; semicircular canals; physical and mental tests of different races; psychology of vision.

Woodworth, Dr. W(illiam) McM(ichael), Cambridge, Mass. **Zoology.* San Francisco, Cal, Aug. 9, 64. A.B, Harvard, 88, A.M, Ph.D, 91. Asst. micros. anat, Harvard, 89–91, instr, 91–97, asst. in charge, Mus. Comp. Zool, 98–00, keeper, 00–05; ed, 'Am. Naturalist,' 99–05. F.A.A; Soc. Nat; Soc. Zool; fel. Am. Acad; Cal. Acad; Wash. Acad; Boston Soc. Nat. Hist.

Woolf, Albert Edward, 832 West End Ave, New York, N. Y. *Electrical engineering, Chemistry.* New York, Sept. 25, 46. Col. City of N. Y, 64. *Electrician and inventor, Electrozone Co.* Elec. Eng. Electrolysis; sanitation; bleaching.—Germicides; antiseptics; longevity.

Woolsey, Dr. George, 117 E. 36th St, New York, N. Y. *Surgery, Anatomy.* New Haven, Conn, May 2, 61. A.B, Yale, 81; M.D, Columbia, 85. *Prof. anat. and clin. surg*, Med. Dept, N. Y. Univ, 91–98; *Med. Col, Cornell, 98–* Surgeon, Bellevue Hosp; assoc. surgeon, Presbyterian Hosp. Ass. Anat; fel. Surg. Ass; fel. N. Y. Acad. Med; N. Y. Surg. Soc; N. Y. Clin. Soc; N. Y. Co. Med. Soc. Surgery; surgical anatomy.

Wooster, Prof. L(yman) C(hild), 1017 Union St, Emporia, Kas. *Geology, Biology.* Hammond, N. Y, Aug. 1, 49. Milton, 65–67; State Nor. Sch, Whitewater, Wis, 70–73; Beloit, 73–75; Yale, 81–82; Chicago, summer, 97. Asst. geologist, Wis. Geol. Surv, 73–79; prof. nat. science, State Nor. Sch, Whitewater, Wis, 78–81; asst. geologist, U. S. Geol. Surv, 81–84; *prof.* nat. science, State Nor. Sch, Mayville, N. Dak, 93–95; *biol. and geol, Kas. State Nor. Sch, 97–*

Supt, Kas. Educ. Exhibit, Columbian Expos, 93. Hon. Ph.D, Milton, 98. M.A.A; Kas. Acad. (pres, 05). Drift; Potsdam sandstone; coal measures.—Geology of Kansas.

Wooton, Prof. E(lmer) O(ttis), Mesilla Park, New Mex. *Biology.* Kokomo, Ind, Sept. 19, 65. B.S, Earlham, 89, A.M, 96; Columbia, 96–98. *Prof.* bot, *New Mex. Col. Agr. and Mech. Arts,* 90–96, 98–00, *biol, 00–* Botanist, New Mex. Exp. Sta, 90–96, 98–; agent and expert, Bur. Forestry, U. S. Dept. Agr, summers, 00, 01, 02, collaborator, Bur. Plant Indust, summer, 04. Phenoganic flora and economic botany of New Mexico.—The range problem of New Mexico.

Worcester, Dean C(onant), Manila, P. I. *Zoology.* Thetford, Vt, Oct. 1, 66. A.B, Michigan, 89. Asst. bot, Michigan, 87, 88, instr. zool, 93–95, asst. prof. zool. and curator, Mus, 95–98; mem. U. S. Philippine Commission, 99–01; *Sec'y of the Interior, Philippine Govt, 01–* Mem. Steere Science Exped. to Philippine Islands, 88, 89; ménage, Science Exped, 90–93. F.A.A; cor. fel. Ornith. Union; Wash. Acad. Geographical distribution of mammals.—Distribution of the birds and mammals of the Philippine Islands.

Wright, Prof. A(rthur) W(illiams), 73 York Square, New Haven, Conn. **Experimental physics.* Lebanon, Conn, Sept. 8, 36. A.B, Yale, 59, Ph.D, 61; Heidelberg and Berlin, 68, 97. Tutor physics, Yale, 65–68; *prof.* physics and chem, Williams, 69–72; molecular physics and chem, *Yale,* 72–87, *exp. physics and in charge, Sloane Physical Lab,* 87– Mem. Eclipse Exped. from U. S. Naval Observatory, 78; Assay Commission, 86; consulting specialist, U. S. Weather Bur, 81–86; chairman, Nat. Acad. Committee to Test Quartz Plates, 88. Nat. Acad. (mem. Committee on Draper Medal); F.A.A. (sec'y, A, 76); Physical Soc; Philos. Soc; Wash. Acad; cor. mem. N. Y. Acad; Conn. Acad; fel. Royal Astron. Soc. Electric shadow in air; studies of electric spark and brush discharge; gases of meteorites; relation to spectra of comets; polarization of light of comets; zodiacal light; sun's corona; phenomena of electric discharge in vacuum tubes; formation of metallic films for mirrors by cathode discharge in vacuum; eclipse of 1878; spectra of meteorite gases; character of lines of the spectrum; apparatus for distillation of mercury in vacuo; standard barometer.—Röntgen rays; radio-active bodies; solar spectrum; absorption spectra.

Wright, Dr. Carroll D(avidson), Clark College, Worcester, Mass. *Statistics, Social economics.* Dunbarton, N. H, July 25, 40. High Sch. and Academies. Senator, Mass, 72–73; chief, Mass. Bur. Statistics of Labor, 73–88; U. S. Commissioner of Labor, 85–05; *mem. Board of Trustees and Exec. Committee, Carnegie Inst, 01–; pres, Col. Dept, Clark, 02–* Hon. prof, statistics and social econ, Catholic, 95–; prof, Columbian, 99; univ. lecturer satistics and social econ. in various institutions; chairman, Jury of Awards, Dept. Social Econ, Pan-Am. Expos, 01. Two gold medals, Pan-Am. Expos; hon. A.M, Tufts, 83; LL.D, Wesleyan, 94; Ph.D, Dartmouth, 97; Clark, 02; Tufts, 03; LL.D, Amherst, 05. F.A.A. (v. pres, 02, pres, 04); Statist. Ass. (pres.); Social Sci. Ass. (v. pres.); Am. Hist. Ass; Econ. Ass; Wash. Acad. (gov.); Int. Statist. Inst; Inst. Int. de Sociol; hon. mem. Russian Royal Statist. Soc; Russian Imp. Acad. Sci; cor. mem. Inst. de France. Social and industrial conditions of the United States.—Official investigation of restriction of output, United States and Europe.

Wright, Dr. Fred(eric) E(ugene), U. S. Geological Survey, Washington, D. C. *Geology, Mineralogy.* Marquette, Mich, Oct. 16, 77. Ph.D, Heidelberg, 00. Instr. petrog, Mich. Col. of Mines, 01–04; asst. state geologist, 02–04; *asst. geologist, U. S. Geol. Surv, 04–* M.A.A; Geol. Soc; Min. Eng; Nat. Geog. Soc; Wash. Geol. Soc; Lake Superior Inst. Min. Eng. Rocks of the alkali series of Rosenbusch; physical crystallography.—Geology of southeastern Alaska; Gladstone's law.

Wright, Prof. G(eorge) Frederick, 145 Elm St, Oberlin, O. *Geology.* Whitehall, N. Y, Jan. 22, 38. A.B, Oberlin, 59, A.M, 62. Pastor, Congregational Church, Bakersfield, Vt, 62–72; Andover, Mass, 72–81; *prof.* language and lit. of New Testament, *Oberlin Theol. Sem,* 81–92, *harmony of science and revelation, 92–* Asst. geologist, Pa. Geol. Surv, 81–82; U. S. Geol. Surv, 84–92; ed, 'Bibliotheca Sacra,' 84–; 'Records of the Past,' 05–; lecturer, Lowell Inst, 87, 92, 96. D.D, Brown, and LL.D, Drury, 87. F.A.A; Geol. Soc; Boston Soc. Nat. Hist; fel. Essex Inst. Glacial phenomena.—Date of glacial period; recent changes in land levels.

Wright, Dr. Henry W(ilkes), 109 Cascadilla Place, Ithaca, N. Y. *Philosophy.* St. James, Mich, Aug. 16, 78. Alma, 94–97; Ph.B, Cornell, 99, Ph.D, 04. *Instr. philos, Cornell, 03–* Philos. Ass. Ethics, especially the bearing of evolution on ethics.—Ethical method.

Wright, Dr. James H(omer), Massachusetts General Hospital, Boston, Mass. **Pathology, Bacteriology.* Pittsburg, Pa. A.B, Hopkins, 90; M.D, Maryland, 92; fellow, Pennsylvania, 92–93; A.M, Harvard, 95. Asst. *path, Harvard,* 93–96, *instr, 96–; director, Clinico-path. Lab, Mass. Gen. Hosp, 96–* Hon. Sc.D, Harvard, 05; Gross prize, Phila. Acad. Surg, 05. Soc. Nat; Ass. Path. and Bact; Am. Physicians; Path. Gesell. Pathological anatomy, histology and bacteriology.

Wright, John S(hepard), Care Eli Lilly and Co, Indianapolis, Ind. *Botany, Pharmacognosy.* Clermont, Ind, Oct. 17, 70. B.S, Purdue, 92. Field asst, N. Dak. Bot. Surv, 91; *botanist, Eli Lilly and Co, 92–* Lecturer bot, Med. Col. of Ind, 96–04. F.A.A; Bot. Soc; Ind. Acad. (sec'y, 95–04, pres, 04–05). Histology of crude drugs; microscopy of powders, starches and other vegetable commodities; starches and powdered

drugs; histology of vegetable articles of diet.—Pharmacology of drugs represented by fluid extracts.

Wright, Dr. Jonathan, 73 Remsen St, Brooklyn, N. Y. *Medicine.* Springboro, Feb. 2, 60. Grad, Miami Valley, 78; M.D, Columbia, 83. M.A.A; Ass. Path. and Bact; Laryngol. Ass; N. Y. Acad. Med. Laryngology; pathology; history of medicine.

Wright, Dr. Ralph G(arrigue), 155 Wade Ave, Washington, Pa. *Chemistry.* St. Louis, Mo, April 29, 75. B.S, Columbia, 99; Polytech, Zürich, 99–02; Ph.D, Basel, 02. Private asst, Columbia, 04–05; *prof. chem, Washington and Jefferson, 05–* Chem. Soc; Chem. Gesell. Structure of dyestuffs.—Fluorescence of certain carbon compounds.

Wright, Prof. (Robert) Ramsay, University of Toronto, Toronto, Can. *Biology.* Alloa, Scotland, Sept. 23, 52. A.M, Edinburgh, 71, B.S, 73. *Prof.* nat. hist, Univ. Col, Toronto, 74–87; *biol, Toronto, 87–, v. pres, 01–* Asst. director, Can. Marine Biol. Sta, 01–04. LL.D, Toronto. Soc. Nat; Soc. Zool; fel. Can. Royal Soc; fel. London Zool. Soc; fel. Royal Micros. Soc; hon. mem. Moscow Nat. Hist. Soc. Anatomy of fishes.—Plankton of the Nova Scotian coast.

Wright, Walter C(hanning), 204 Forest St, Medford, Mass. *Actuarial science, Mathematics.* Boston, Mass, Aug. 24, 46. Private study. Actuary, New Eng. Mutual Life Ins. Co, 66–00; *consulting actuary, 00–* M.A.A; Math. Soc; Actuarial Soc; Statist. Ass. Actuarial subjects.—Best methods of testing the strength and economy of life insurance institutions; equity as applicable to life insurance, etc.

Wright, Prof. W(alter) L(ivingston), Jr, Lincoln University, Chester Co, Pa. *Mathematics, Astronomy.* Juliustown, N. J, Feb. 3, 72. A.B, Princeton, 92, fellow, 92–93, A.M, 95. *Prof. math, Lincoln, 93–* M.A.A; Astron. and Astrophys. Soc.

Wright, Prof. W(illiam) H(ammond), Lick Observatory, Mt. Hamilton, Cal. **Astronomy.* San Francisco, Cal, Nov. 4, 71. B.S, California, 93, fellow, 94–96; fellow, Chicago, 96–97. Asst, *Lick Observatory,* 97–98, asst. astronomer, 98–03, *acting astronomer, in charge D. O. Mills Exped. to South. Hemisphere, 03–* Astron. and Astrophys. Soc. Spectroscopic study of new stars and stellar motions.

Wright, Rev. W(illia)m J(anes), Fulton, Mo. *Mathematics, Philosophy.* Weybridge, Vt, Aug. 3, 31. A.B, Union, 57; grad, Princeton Theol. Sem, 62. Chaplain, U. S. A. and U. S. Vols, 61–64; pastor, Presbyterian churches, 64–76; prof. math, Wilson, 76–77; metaphysics, Westminster (Mo.), 85–99. Hon. Ph.D, Union, 76; D.D, Shurtleff, 90; LL.D, Westminster (Mo.), 81. London Math. Soc. Mathematics; philosophy.

Wrinch, Dr. F(rank) S(idney), College Ave. near Bancroft, Berkeley, Cal. *Psychology.* Essex, England, Sept. 17, 68. A.M, Toronto, 97, Young Memorial fellow, 00; Ph.D, Würzburg, 01. Asst, Psychol. Lab, Toronto, 97–99; demonstrator *psychol,* Princeton, 01–02; *instr. in charge, Psychol. Lab, California, 02–* M.A.A; Psychol. Ass. Time-relations of mental phenomena; comparison of equality of equally observable differences.—The limitations of the application of the method of mean gradation to estimation of intensity of star points and larger discs of light.

Wulling, Prof. Frederick J(ohn), University of Minnesota, Minneapolis, Minn. *Chemistry, Pharmacology.* Brooklyn, N. Y, Dec. 24, 66. Col. Physicians and Surg, Columbia, 85–88; Ph.G, N. Y. Col. Pharmacy, 87; Munich, Berlin, Paris and Göttingen, 88–89; Phm.D, Minnesota, 92; Edinburgh, Cambridge and Oxford, 93–94; LL.B, Minnesota, 96, LL.M, 98. Asst. prof. and quiz master, N. Y. Col. Pharmacy, 87–91; prof. pharmacodynamics, Brooklyn Col. Pharmacy, 91–92; *dean of Faculty and prof. pharmacy, med. chem. and pharmacol, Col. of Pharmacy, Minnesota, 92–* Assoc. ed, 'Pharm. Record', 86–92; managing chemist, Dr. S. Speir's Laboratories, Brooklyn, 87–91. Chem. Soc; Pharmaceut. Ass; Minn. Pharmaceut. Ass; Brooklyn Inst; N. Y. City Chemists Club; fel. London Soc. Sci. Medical and pharmaceutical inorganic and organic chemistry.

Wurtele, Rev. Louis C(ampbell), St. Mark's Parsonage, Acton Vale, Que, Can. *Geology, Entomology.* Quebec, Que, Sept. 1, 31. A.B, Bishop's Col, 57, A.M, 60. Instr. French, Bishop's Col. Sch, 59–60; *rector, St. Mark's Episcopal Church, Acton Vale, 62–* Pres, Sch. Board, Acton Vale, 85– F.A.A; Agassiz Ass. (pres, Chapter No. 15). The geological formation of the St. Francis River.—Hebraic radicals in early Semitic languages.

Wurts, Prof. A(lexander) J(ay), 1164 Shady Ave, Pittsburg, Pa. **Electrical engineering.* Carbondale, Pa, March 3, 62. Ph.B, Yale, 83; M.E, Stevens, 84; Polytech, Hanover, 86. On technical staff, Westinghouse Elec. and Mfg. Co, 87–98; manager, Nernst Lamp Co, 98–04; elec. engineer, Westinghouse Elec. and Mfg. Co, 04–05; *prof. applied elec. and head of dept, Carnegie Tech. Schools, Pittsburg, 05–* Constructing engineer, Carnegie Tech. Schools. John Scott medal, 94. M.A.A; Elec. Eng; Philos. Soc; Pittsburg Acad. Discovered the non-arcing metals; lightning arresters; the Nernst lamp.

Wyeth, Dr. John A(llan), 19 W. 35th St, New York, N. Y. *Surgery.* Missionary Station, Ala, May 26, 45. M.D, Louisville, 69; Bellevue Med. Col, 73. Asst. demonstrator anat, Bellevue Med. Col, 73–76; *prof. surg, N. Y. Polyclinic Med. Sch. and Hosp, 82–* Surgeon, St. Elizabeth Hosp, 78–97; Mt. Sinai Hosp, 80–98; pres, Med. Faculty, N. Y. Polyclinic Med. Sch. and Hosp. LL.D, Alabama, 01. F.A.A; Am. Med. Ass. (pres, 01–02); N. Y. State Med. Ass. (pres, 00); N. Y. Acad. Med; N. Y. Path. Soc.

(pres, 85, 86); N. Y. Co. Med. Ass. Occlusion of arteries by cell proliferation; control of hemorrhage in amputations at the hip and shoulder joints; cure of vascular tumors by injection of boiling water; correction of deformities of the alveolar arch; dextral preference in man.

Wylie, Prof. R(obert) B(radford), Sioux City, Ia. *Botany.* Maquoketa, Ia, March 28, 70. B.S, Upper Iowa, 97; Minnesota, 98; Chicago, summer, 99, fellow, 00–01, 02–04, Ph.D, 04. *Prof. biol, Morningside, 97–* Instr. biol, Eastern Ills. State Nor. Sch, summer, 01; asst. bot, Chicago, 02–04. F.A.A; fel. Iowa Acad; Int. Ass. Bot. Morphology of Elodea Canadensis.—Morphology of Vallisneria spiralis.

Wyman, Dr. Levi P(arker), Chester, Pa. *Chemistry.* Skowhegan, Me, July 12, 73. A.B, Colby, 96, A.M, 99; Ph.D, Pennsylvania, 02. Principal, High Sch, Dennis, Mass, 99–00; instr. *chem,* Pa. State, 03–05; *prof, Pa. Mil. Col, 05–* Purification of tungstic acid.

Wyman, Surg. Gen. Walter, Stoneleigh Court, Washington, D. C. *Public Health, Quarantine, Sanitation.* St. Louis, Mo, Aug. 17, 48. A.B, City Univ. of St. Louis, 66; A.B, Amherst, 70, A.M, 89; M.D, St. Louis Med. Col, 73. Asst. physician, St. Louis Hosp, 73–75; asst. surgeon and surgeon in charge of hospitals, Marine Hosp. Service, at St. Louis, Cincinnati, Baltimore and New York, in charge quarantine, sanitary statistics, etc, Marine Hosp. Bur, 79–91, supervising surg. gen, 91–92; *surg. gen, Pub. Health and Marine Hosp. Service, 02–* Mem. Board of Visitors, Govt. Hosp. for Insane; Med. Board, Providence Hosp, Washington; chairman, Yellow Fever Inst, Marine Hosp. Service; in charge nat. quarantines and marine hospitals, Puerto Rico, Hawaii, Philippines and Alaska. LL.D, Western Univ. of Pa, 97. First Gen. Int. Sanit. Convention of Am. Republics, Washington, 02 (pres.). F.A.A; Pub. Health Ass. (pres, 02–03); Am. Med. Ass. (first v. pres.); Climat. Ass; Ass. Mil. Surg. (pres, 04–05); Am. Acad. Med; Nat. Geog. Soc; Soc. Psychical Research; Wash. Acad; hon. mem. Constantinople Imperial Soc. Med. Public health; quarantine; epidemics; sanitation.

Wysor, Prof. Henry, Easton, Pa. *Chemistry, Metallurgy.* Dublin, Va, April 20, 80. B.S, Va. Polytech. Inst, 02. Asst. chemist, Carnegie Steel Co, Duquesne, Pa, 01–04; *asst. prof. chem. and metal, Lafayette, 04–* Chem. Soc. Elimination of impurities in the basic open hearth process.—Slag reactions.

Y

Yates, Dr. Lorenzo G(ordin), Carrillo and Anacapa Sts, Santa Barbara, Cal. *Natural science.* Isle of Sheppey, England, Jan. 8, 37. Private schools, England. With Cal. Geol. Surv, 71–90; in charge, Science Dept, Fröbel Inst, 90–97; *special expert, Park Mus, San Francisco, 97–* M.A.A; Geol. Soc; Archeol. Inst; fel. Linnean Soc; Wash. Anthrop. Soc; S. Cal. Acad; San Francisco Micros. Soc; Santa Barbara Soc. Nat. Hist. (pres.); Torrey Bot. Club; Victoria Inst. Origin and distribution of animals and plants; geology; mineralogy; ethnology; conchology.—Fauna and flora, living and extinct; ethnology.

Yatsu, Dr. Naohidé, Department of Zoology, Columbia University, New York, N. Y. *Zoology.* Tokyo, Japan, Sept. 8, 77. A.B, Imperial Univ, Tokyo, 00; Ph.D, Columbia, 05. Soc. Exp. Biol. and Med; Tokyo Zool. Soc. Embryology of Brachiopoda; cytology and experimental embryology of Nemertines.—The egg of Cerebratulus.

Yendell, Paul S(ebastian), 19 Winter St, Dorchester, Mass. *Astrophysics.* Boston, Mass, April 29, 44. High Sch. *Draftsman,* Mass. Metrop. Sewerage Commission, 90–94; Mass. State Topog. Surv, 94–99; Mass. Metrop. Sewerage Commission, 99–04; *city engineer's office, Boston, 05–* Fel. Am. Acad; Boston Sci. Soc. Variable stars, their light changes and periods.—Light curves and periods of variable stars of the Algol and short-period types.

Yerkes, Dr. Robert M(earns), Harvard University, Cambridge, Mass. *Psychology, Physiology.* Breadysville, Pa, May 26, 76. A.B, Ursinus, 97; A.B, Harvard, 98, A.M, 99, Ph.D, 02. Asst. psychol, *Harvard,* 99–01, teaching fellow, 01–02, *instr. comp. psychol, 02–* F.A.A; Psychol. Ass; Physiol. Soc; Soc. Zool. Physiology of the senses and central nervous system; sensory reactions of organisms; animal reaction-time.—The senses of frogs; comparative reaction-time studies; reinforcement and inhibition phenomena; the senses of dancing mice; psychology of tortoises; reactions to light; color vision; time- and space-perception.

Young, Prof. A(bram) V(an) E(ps), Evanston, Ills. **Chemistry.* Sheboygan, Wis, June 5, 53. Ph.B, Ph.C, Michigan, 75; fellow, Hopkins, 78–80. Asst. *chem,* Michigan, 75–77; Harvard, 84–85; *prof, Northwestern, 85–* F.A.A; Chem. Soc. Chemistry.

Young, Dr. A(rcher) E(verett), 712 South St, Lafayette, Ind. *Mathematics.* Haddam Neck, Conn, March 12, 73. A.B, Wesleyan, 98; Ph.D, Princeton, 03. *Instr,* Shady Side Acad, Pittsburg, 98–01; *math, Purdue, 03–* Math. Soc; Math. Verein. Differential geometry.—Isothermal asymptotic surfaces; certain isothermic surfaces.

Young, Prof. C(harles) A(ugustus), Hanover, N. H. **Astronomy.* Hanover, Dec. 15, 34. A.B, Dartmouth, 53, A.M, 56. Teacher classics, Phillips Acad, 53–56; prof. math, nat. philos. and astron, Western Reserve, 56–66; nat. philos. and astron, Dartmouth, 66–77; *astron, Princeton, 77–05, emer. prof, 05–* Pres, Board of Visitors, U. S. Naval Observatory, 01–02. Janssen medal, Paris Acad, 91; hon. Ph.D, Pennsylvania, 70; Hamilton, 71; LL.D, Wesleyan, 76; Columbia, 87; Western Reserve, 93; Dartmouth, 03;

Princeton, 05. Nat. Acad; F.A.A. (v. pres, 76, pres, 83); Astron. and Astrophys. Soc. (v. pres, 02); Philos. Soc; Am. Acad; hon. mem. N. Y. Acad; assoc. Royal Astron. Soc; cor. mem. British Ass; hon. mem. Cambridge Philos. Soc; Manchester (England) Lit. and Philos. Soc; Astron. Gesell; Soc. Ital. di Spettroscop. Solar spectroscopy; work on eclipses and planets.

Young, Prof. J(acob) W(illiam) A(lbert), 5430 Washington Ave, Chicago, Ills. **Mathematics, Pedagogy of mathematics.* York, Pa, Dec. 28, 65. A.B, Bucknell, 87, A.M, 90; Berlin, 88–89; Ph.D, Clark, 92; studied Prussian schools, 97–98; French schools, 01, 04–05. Instr. math, Bucknell Acad, 87–88; assoc, *Chicago,* 92–94, instr, 94–97, *asst. prof. pedag. of math, 97–* Math. Soc. The theory of groups; pedagogy of secondary mathematics.—Teaching of mathematics in France; topics connected with the teaching of mathematics in American secondary schools and colleges.

Young, Prof. S(tewart) W(oodford), Stanford University, Cal. *Physical chemistry.* Orient, N. Y, March 14, 69. B.S, Cornell, 90; Leipzig, 99–00. Asst. *chem,* Cornell, 90–91; Swarthmore, 91–93; asst, later instr. and asst. prof, *Stanford,* 93–00, *assoc. prof, 00–* F.A.A; Chem. Soc; San Francisco Mechanics Inst. Complex tin compounds; inhibition of rate of oxidation; modifications of sodium thiosulphates; spontaneous crystallization of supercooled solutions and fusions.

Youtz, Prof. Lewis A(ddison), 463 South St, Appleton, Wis. *Chemistry.* Canton, Ohio, July 21, 64. Ph.B, Simpson, 90, Ph.M, 93, M.S, 02; Ph.D, Columbia, 02. Instr. nat. science, High Sch, Des Moines, Ia, 91–93; assoc. prof. science, Simpson, 93–99; *prof,* Mont. Wesleyan, 99–00; *chem, Lawrence, 02–* Chem. Soc; Soc. Chem. Indust; Wis. Acad. The quantitative determination of antimony.—The determination of antimony and study of its compounds.

Yowell, Everett I(rving), 3502 Madison St, N. W, Washington, D. C. *Astronomy.* Cincinnati, O, Jan. 2, 70. C.E, Cincinnati, 91, M.S, 93; Göttingen, 94–95. Instr. math, Cincinnati, 91–94, 95–97; asst, Cincinnati Observatory, 95–01; *computer, U. S. Naval Observatory, 01–* Math. Soc; Astron. and Astrophys. Soc. Orbit of Comet I, 1904.

Yutzy, Dr. S(imon) M(enno), Ann Arbor, Mich. *Anatomy, Osteology.* Somerset Co, Pa, May 9, 56. B.E, Pa. State Nor. Sch, Millersville, 80, M.E, 83; M.D, Michigan, 91. *Instr. osteol. and demonstrator anat, Michigan, 91–* Principal pub. schools, Mt. Joy, Pa. Ass. Anat; Am. Med. Ass; Washtenaw Co. (Mich.) Med. Soc; Ann Arbor Med. Soc. Anatomy.

Z

Zahm, Prof. A(lbert) F(rancis), Catholic University, Washington, D. C. *Mechanics.* New Lexington, O. A.M, Notre Dame, 85; M.E, Cornell, 92; Ph.D, Hopkins, 98. *Prof.* math, Notre Dame, 85–89, math. and mech, 90–92; *mech, Catholic, 95–* Int. Conf. Aerial Navigation (gen. sec'y, 93, official delegate, 00). Mech. Eng; Wash. Philos. Soc. Resistance of air below 1,000 feet per second; a new chronograph for small intervals of time; mechanics of high speed balloons; aerodynamics; aerial navigation; stability of aeroplanes; wind gusts and their relation to flight; determination of skin friction of air up to 30 miles an hour; absolute measurement of air velocity; absolute pressure of air on normal standard plane.—Lift and drift of arched surfaces; law of interference of superposed planes.

Zalinski, Major E(dmund) L(ouis), U. S. A. (retired), Century Club, 7 W. 43d St, New York, N. Y. *Military science.* Kunilk, Prussian Poland, Dec. 13, 49. Grad, Artil. Sch. of Submarine Mines, Willetts Point, 80. Volunteer aide-de-camp, 64–65, second lieut, Second N. Y. Heavy Artil, 65; Fifth U. S. Artil, 66–67, first lieut, 67–87, capt, 87, retired, 94, major, 04. Prof. mil. science and tactics, Mass. Inst. Tech, 73; engaged in various artillery investigations and experiments with high explosives, etc, 80–89; sent to Europe to secure military information, 89–90. F.A.A; Elec. Eng.

Zeit, Dr. F(rederick) Robert, 4016 Vincennes Ave, Chicago, Ills. *Pathology, Bacteriology.* Switzerland, March 13, 64. Gymnasium, Elberfeld, Cologne, Düsseldorf; M.D, Western Reserve, 87. *Prof. path. and bacter, and head, Dept. Path. and Bacter, Post-Grad. Med. Sch, Chicago, 99–; Med. Sch, Northwestern, 00–* Asst. and later collaborator of Prof. Edwin Klebs, 97–00; pathologist, Wesley, Mercy, St. Luke's, Post-Grad, Chicago and Charity Hospitals. Ass. Path. and Bact; Am. Med. Ass; Ills. State Med. Soc; Wis. Med. Soc; hon. mem. Wis. Med. Ass; Chicago Path. Soc; Chicago Med. Soc; Chicago Acad. Med; German Med. Soc. of Chicago. Effect of X-rays, direct, alternating and Tesla currents upon bacteria; histogenesis of endothelial neoplasms; longevity of typhoid bacilli in lake and river water.—Malignant and benign proliferations of the endometrium; methods for isolation of typhoid bacilli in polluted waters.

Zeleny, Dr. Charles, Indiana University, Bloomington, Ind. *Zoology.* Hutchinson, Minn, Sept. 17, 78. B.S, Minnesota, 98, M.S, 01; Ph.D, Chicago, 04. *Instr. zool, Indiana, 04–* F.A.A; Soc. Zool. Compensatory regulation; rate of regeneration; localization of formative materials in the egg.—The factors controlling the rate of regeneration; the direction of differentiation in a regenerating appendage.

Zeleny, Prof. John, 321 Church St, S. E, Minneapolis, Minn. **Physics.* Racine, Wis, March 26, 72. B.S, Minnesota, 92; A.B, Cambridge, 99; Berlin, 97. Instr. *physics, Minnesota,* 92–97, asst. prof, 97–01, *prof, 01–* F.A.A. (sec'y, B, 01); assoc. Cambridge Philos. Soc. The electrical conductivity of gases as produced by Röntgen rays and ultraviolet light; velocity of

ions; the electrical charges produced in gases by the diffusion of ions; action of Röntgenized gases in discharging non-conductors.—The discharge of electricity from points.

Ziwet, Prof. Alexander, 644 S. Ingalls St, Ann Arbor, Mich. **Mathematics, Mechanics.* Breslau, Germany, Feb. 8, 53. C.E, Polytech, Karlsruhe, 80. Asst, U. S. Lake Surv, 80–82; U. S. Coast and Geod. Surv, 82–87; instr, later asst. prof, junior prof. and *prof. math, Michigan, 88–* F.A.A; Math. Soc. (assoc. ed, 'Bul.').

Zoethout, Prof. W(illia)m D(ouwes), 6225 Green St, Chicago, Ills. *Physiology.* Birdaard, Netherlands, Aug. 19, 71. A.B, Hope, 93; Ph.D, Chicago, 98. *Prof. physiol,* Harvey Med. Col, Chicago, 99–04; *Jenner Med. Col, Chicago, 05–* Asst. physiol, Chicago, 00– Effect of ions on muscle-tone; contact irritability.—Effects of hydrogen and hydroxyl ion on muscle-tone and the reversibility of these effects; analogies between the physiological effects of high temperatures, lack of oxygen and certain poisons.

AMERICAN MEN OF SCIENCE WHO DIED DURING THE YEARS 1903, 1904, 1905.

Abbott, Samuel Warren. *Medicine.* 37–04.
Abert, Sylvanus Thayer. *Civil engineering.* 28–03.
Allin, Arthur. *Psychology.* 69–03.
Alvord, Henry Elijah. *Agriculture.* 44–04.
Atkinson, Edward. *Economics.* 27–05.
Baker, Marcus. *Mathematics, Geography.* 49–04.
Bartlett, John Russell. *Physical geography.* 43–04.
Beecher, Charles Emerson. *Paleontology.* 56–04.
Behr, Hans Hermann, *Entomology, Botany.* 18–04.
Belknap, George Eugene. *Hydrography.* 32–03.
Bell, Alexander Melville. *Phonetics.* 19–05.
Bell, Charles J. *Chemistry.* 54–03.
Blackford, Eugene Gilbert. *Ichthyology.* 39–04.
Bolton, Henry Carrington. *Chemistry.* 43–03.
Bouscaren, Louis F. G. *Engineering.* –04.
Brace, DeWitt Bristol. *Physics.* 58–05.
Brown, Benjamin G. *Mathematics.* 37–03.
Brownell, Walter Abner. *Geology, Chemistry.* 38–04.
Campbell, John Lyle. *Physics, Astronomy.* 27–04.
Chapman, Edward John. *Mineralogy.* 21–04.
Chester, Albert Huntington. *Chemistry.* 43–03.
Cilley, Frank Harvey. *Mechanics.* 69–05.
Collins, Joseph William. *Ichthyology.* 39–04.
Corning, James Leonard. *Neurology.* 55–03.
Crouch, H. Chester. *Engineering.* 71–03.
Davis, Nathan Smith. *Medicine.* 17–04.
Day, Fisk Holbrook. *Natural history.* 26–03.
Day, William Cathcart. *Chemistry.* 57–05.
Drown, Thomas Messinger. *Chemistry, Metallurgy.* 42–04.
Du Chaillu, Paul Belloni. *Exploration.* 38–03.
Edson, Arthur Woodbury. *Botany.* –05.
Elder, William. *Chemistry.* 43–03.
Eldridge, George Homans. *Geology.* 54–05.
Ely, Achsah Mount. *Mathematics.* 48–04.
Engelmann, George Julius. *Gynecology.* 47–03.
Ewell, Ervin Edgar. *Chemistry.* 67–05.
Fowler, Edwin Horatio. *Topographic drawing.* 56–04.
Francis, William. *Chemistry.* 19–04.
Frazier, Benjamin West. *Mineralogy, Metallurgy.* 42–05.
Fuertes, Estevan Antonio. *Civil engineering.* 38–03.
Gatling, Richard Jordan. *Physics.* 19–03.
Gattinger, Augustine. *Botany.* 25–03.
Gibbs, Josiah Willard. *Physics.* 39–03.
Greeley, Arthur White. *Zoology.* 75–04.
Greene, Charles Ezra. *Civil engineering.* 42–03.
Grimes, James Stanley. *Geology.* 07–03.
Harkness, William. *Astronomy.* 37–03.
Hartman, R. N. *Chemistry.* –03.
Hatcher, John Bell. *Geology, Zoology.* 61–04.
Henck, John B. *Engineering.* 16–03.
Herrick, Clarence Luther. *Neurology.* 58–04.
Hill, Henry Barker. *Chemistry.* 43–03.
Hodgson, Richard. *Psychical research.* 55–05.
Hoffmann, Friedrich. *Pharmacy.* –04.
Holmes, Edmund Wales. *Anatomy.* 51–05.
Hudson, Thomson Jay. *Psychology.* 34–03.
James, Bushrod Washington. *Ophthalmology.* 36–03.
Jegi, John I. *Psychology.* 66–04.
Jesup, Henry Griswold. *Botany.* 26–03.
Jones, David Phillips. *Engineering.* –03.
Judd, Sylvester Dwight. *Biology.* 71–05.
Kelsey, Francis D. *Botany.* 49–05.
Knight, Wilbur Clinton. *Geology, Mining.* 58–03.
Koons, Benjamin Franklin. *Natural history.* 48–03.
Krug, William Henry. *Chemistry.* 69–05.
Laudy, Louis H. *Chemistry.* 43–05.
Lesley, J. Peter. *Geology.* 19–03.
Lilley, George. *Mathematics, Engineering.* 54–04.
Lindenkohl, Adolphus. *Surveying, Geography.* 33–04.
McCalley, Henry. *Geology.* 52–04.
McIlwraith, Thomas. *Ornithology.* –03.
Marindin, Henry Louis Francois. *Hydrography.* 43–04.
Mason, James Weir. *Mathematics.* 36–05.
Matthews, Washington. *Anthropology.* 43–05.
Miller, Bloomfield J. *Mathematics.* 49–05.
Millis, Frank Edward. *Physics, Mathematics.* 60–03.

Morison, George Shattuck. *Civil engineering.* 42–03.
Morris, John Lewis. *Mechanics.* 42–05.
Murray, David. *Mathematics, Astronomy.* 30–05.
Neff, Peter. *Geology.* 27–03.
Osterberg, Max. *Electrical engineering.* 69–04.
Packard, Alpheus Spring. *Zoology, Paleontology.* 39–05.
Palmer, Arthur William. *Chemistry.* 61–04.
Peabody, Selim Hobart. *Physics, Entomology.* 29–03.
Pettee, William Henry. *Mineralogy, Geology.* 38–04.
Prescott, Albert Benjamin. *Chemistry.* 32–05.
Pulsifer, William Henry. *Chemistry.* 31–05.
Quantz, John O. *Psychology.* 68–03.
Radelfinger, Frank Gustave. *Mathematics, Astronomy.* 72–04.
Rand, Theodore Dehon. *Geology.* 36–03.
Rhoads, Edward. *Physics.* 73–03.
Rockwell, Alfred Perkins. *Mining engineering.* 34–04.
Rockwell, Charles Hall. *Astronomy.* 26–04.
Russell, Frank. *Anthropology.* 68–03.
Rutter, Cloudsley. *Zoology.* 67–03.
Schäffer, Charles. *Botany, Geology.* 38–03.
de Schweinitz, Emil Alexander. *Biochemistry.* 66–04.
Sellers, William. *Mechanical engineering.* 24–05.
Semans, William Oliver. *Chemistry.* 35–04.
Shaw, Edward R. *Pedagogy.* 55–03.
Smith, Hamilton Lamphere. *Physics, Astronomy.* 18–03.
Somerville, Maxwell. *Glyptology.* 29–04.
Sondericker, Jerome. *Mechanics.* 59–04.
Stieringer, Luther. *Electrical engineering.* 45–03.
Sweet, Elnathan. *Civil engineering.* 37–03.
Sweetland, Arthur E. *Meteorology.* –03.
Thurston, Robert Henry. *Mechanical engineering.* 39–03.
Timberlake, Hamilton Greenwood. *Botany.* 71–03.
Trumbull, Gurdon. *Ornithology.* 41–04.
Walpole, Frederick A. *Botany.* 61–04.
Warder, Robert Brown. *Chemistry.* 48–05.
Webb, Howard Scott. *Electrical engineering.* 65–05.
Wells, F. J. *Agriculture.* –04.
Wiener, Joseph. *Pathology.* 28–04.
Wiggin, Oliver C. *Anatomy, Physiology.* –05.
Winlock, Anna. *Astronomy.* 57–04.
Wistar, Isaac Jones. *Anatomy, Penology.* 27–05.
Wood, Edward Stickney. *Chemistry.* 46–05.
Woodhouse, Samuel W. *Natural history.* 20–04.
Wright, Albert Allen. *Geology, Zoology.* 46–05.

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